

# ANNUAL REPORT

OF THE

MEDICAL OFFICER

TO

## The County Council

OF

## NOTTINGHAMSHIRE,

FOR THE YEAR 1905,

BY

HENRY HANDFORD, M.D., F.R.C.P., D.P.H.

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Nottingham :

THOS. FORMAN AND SONS, SHERWOOD STREET.

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NOTTINGHAM,

*June 1st, 1906.*

MY LORDS AND GENTLEMEN,

I have the honour to present my tenth Annual Report, which deals with the year 1905. It consists, as in former years, of an analysis of the Annual Reports of the Medical Officers of Health of the 26 Districts into which the Administrative County is divided for sanitary purposes, together with Tables of Vital Statistics derived from those Reports. Year by year more detailed statistics are required by the different Government Departments. In the earlier Reports of this series, the Local Government Board issued two tables; for several years they have required four. Last year two additional tables were introduced into this Report, based upon the forms required to be sent to the Home Office shewing the work done by Medical Officers of Health in the County under the Factory and Workshop Act. This year the Local Government Board have issued a fifth table dealing with Infantile Mortality, and necessitating two additional tables, Numbers X and XI, in this Report. These last are likely to prove of very great value, and already shew that nearly 70 per cent. of the deaths of Infants under one year of age take place during the first six months of life.

The estimated population for the year 1905 was **310,085**, shewing an increase of **2·24** per cent. on the previous year. In the decennium, 1881–1891, the annual rate of increase was 1·33 per cent.; in the decennium, 1891–1901, it was 1·85 per cent.; and in the four years, 1901–5, it was estimated to be 3·07 per cent.

The birth-rate was **28·6** per 1,000 persons living, compared with an average of 33·2 for the five years 1891–5; 31·3 for the five years 1895–1900; and 30·5 for the last five years.

The death-rate was **14·3**, the lowest, with one exception, for the last 15 years. When taken in groups of five years, the progressive improvement in the death-rate is shewn to be most satisfactory.

Average death-rate for the five years, 1891–95=16·6 per 1,000.

“	“	“	1896–1900=16·2	“
“	“	“	1901–05=14·4	“

This means that if the death-rate, which prevailed in the five years, 1891-95, had continued during the last five years, there would have been 3,233 additional deaths, which have fortunately been saved to the community. This is some return for the expenditure upon sanitary measures.

I have, as heretofore, made observations when necessary and introduced abstracts concerning general Sanitary and Hygienic questions of importance, not confined to the year 1905, but as far as possible brought up to the date of publication.

The correspondence of the Public Health Department involved the issue of 2,992 letters and reports, compared with 3,063 in 1904.

During the year, 33 journeys to different parts of the County were made, many of them occupying the whole day.

The County Medical Officer attends all Local Inquiries held by the Local Government Board when sanitary questions of importance to the County Council are involved.

An account of the administration of the Midwives' Act is given on pages 22-24, and more detailed reports have been published each quarter, copies of which are required to be sent to the Central Midwives Board.

In respect to River Pollution some progress has been made. During the year 1905, Orders of Court for five years were obtained, *by consent*, in the case of the Eastwood Urban District Council and the Basford Rural District Council, on account of the pollution of the river Erewash. The remedial works at Newthorpe are already well advanced towards completion.

A similar Order was obtained in the case of the Southwell Rural District Council on account of the pollution of the river Greet. In consequence, new sewerage and sewage disposal works are at this date approaching completion.

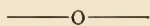
An abstract of the rainfall in nine different districts in the County is given in Table XIII.

I have the honour to remain,

Your obedient Servant,

HENRY HANDFORD.

# ANNUAL REPORT.



The Annual Report of the County Medical Officer is the *only* record of the Health of the Administrative County over which the County Council exercise jurisdiction.

The Report of the Registrar-General deals with the *Registration County*, which differs very essentially from the Administrative County both in area and population, including, as it still does, about 100,000 persons residing in Derbyshire, Leicestershire, Lincolnshire, and the West Riding of Yorkshire, in addition to the majority of the population of the Administrative County.

**Annual Reports.**—The Reports were received on the following dates :—

Feb. 10th	Misterton.	Mar. 16th	Mansfield.
" 15th	Hucknall Huthwaite.	" 16th	Sutton-in-Ashfield.
" 20th	Carlton.	" 21st	Skegby.
" 22nd	Warsop.	" 28th	Blyth and Cuckney.
" 24th	Leake.	" 28th	Hucknall Torkard.
" 27th	Worksop	" 31st	Southwell.
" 27th	Kirkby-in-Ashfield.	April 9th	Stapleford.
" 28th	Newark Urban.	" 10th	Bingham.
Mar. 5th	West Bridgford.	" 10th	East Retford Rural.
" 8th	Arnold.	" 21st	East Retford Urban.
" 9th	Mansfield Woodhouse.	" 28th	Becston.
" 13th	Eastwood.	May 3rd	Basford.
" 15th	Newark Rural.	" 10th	Kingston and Ratcliffe

The compilation of this Report has been greatly facilitated by Medical Officers of Health kindly sending *advance copies of their statistics* when there was a probability of the printed report being late.

**Printing Annual Reports.**—All the District Councils, except Bingham, Leake, and Misterton, now print the Annual Reports of their Medical Officers of Health. The advantage of printing these Reports has been so generally recognised that it is unnecessary for me to refer to it further.

**Urban and Rural Districts.**—There has been no addition to the number of Urban Districts during the year.

**Medical Officers of Health.**—I regret to have to record two changes during the past year.

By the lamented death of Dr. HOUSLEY in November, 1905, the County lost one of their most zealous, efficient, and honourable Medical Officers. Dr. HOUSLEY held the office of Medical Officer of Health to the East Retford Rural District Council for the long period of twenty-five years. He had been Medical Officer of Health for the Borough of East Retford for



ten years, and had recently resigned a similar office at Worksop after a tenure of fifteen years. His relations with his Medical colleagues were always marked by great courtesy and kindness, and his loss will be much felt.

In the Spring of 1905, Dr. BEAMAN, of Misterton, owing to ill health, resigned the office of Medical Officer of Health, which he had held with much credit for many years; and was succeeded by Dr. J. POTTERTON FERGUSON.

**Area.**—The area of the Administrative County amounts to  $814\frac{3}{4}$  square miles, exclusive of water.

**Population.**—The *natural* increase of population for the year 1905, by excess of births over deaths, was **4429** or **1·46** per cent., compared with 1·69, 1·67, and 1·68 for the three preceding years. This shows a distinct falling off, and is due to the diminished birth-rate.

The *estimated* population for the whole County, at the middle of the year 1905, was **310,085**, showing an increase of **6802**, or **2·24** per cent., compared with 8718 and 2·95 per cent. for 1904. Although a smaller increase than for the last three years, this is much in excess of the natural increase, and indicates a considerable amount of immigration, chiefly into the coal mining portions of the Urban Districts.

The estimated increase in the Urban Districts was 5970, or 3·28 per cent.; and in the Rural 832, or ·68 per cent. The estimated population of the County has been arrived at by adding together the populations of the 26 Districts, which have been estimated by each Medical Officer of Health for his own District, from local knowledge. Calculated according to the rate of increase shewn between the Census of 1891 and the Census of 1901, the population at the middle of 1905 would be 295,287. This is, no doubt, too small, on account of the rapid development of coal mining in certain districts; and the local estimates, which have been carefully made, are nearer the truth, though probably they err on the side of excess, as there has clearly been a diminishing rate of increase in each of the last three years.

The birth-rates and death-rates have been calculated upon the *estimated* population. But, now that we are five years from the last Census, the uncertainty as to the true population of the rapidly growing Urban Districts somewhat impairs the value of important statistics, and renders a quinquennial Census a matter greatly to be desired.

In the Rural Districts, the population changes far less rapidly.

**Births.**—During the year, 8880 births have been registered in the County, corresponding to a rate of 28·6 per 1000 of the population, and shewing a falling off of 2·3 per 1000 when compared with the previous year. Notwithstanding the estimated increase of population, 499 fewer births were registered than in 1904.

This fact makes it very unlikely that the diminution of 2·3 per 1000 in the birth-rate can, to any appreciable extent, be due to an over-estimation of the population. Indeed, as regards the Rural Districts, in which the birth-rate has fallen 2·4 per 1000 against 2·2 in the Urban, there is little scope for error in estimating the population, the difference between 1904 and 1905 being confined to an increase of 832 persons.

So great a diminution in the birth-rate in one year is a matter of considerable economic importance to the Country. It has, no doubt, been brought about by economic conditions, and is not a sign of physical deterioration. It is probably due to bad trade and the increased struggle for existence, and not to bad health.

In most of the Reports the proportion of legitimate and illegitimate births is given. Thus of 3,906 births in 11 Urban Districts, 3,739 were legitimate and 167 illegitimate, the latter being 4·2 per cent. Of 2,859 births in 10 Rural Districts 2,730 were legitimate and 129 illegitimate, the latter being 4·5 per cent.

In five Reports the legitimate and illegitimate births were not separated.

The classification of births into legitimate and illegitimate is a distinct advance in economic statistics; but, unfortunately, the information which is most important in the interests of Public Health has been omitted:—namely, the proportion of deaths among the legitimate and among the illegitimate.

In those parts of the kingdom where the information has been obtained, it has usually been found that the infantile mortality of illegitimate children is, approximately, double that of legitimate children.

In 6,676 births the sex is given, 3474 being males, and 3,202 females.

In 2,204 births in 7 districts the sex is not mentioned.

**Still-births.**—Until registration is made compulsory, as has been long and strenuously advocated, the number of still-born children must be a matter of conjecture. In many instances the distinction between live-birth and still-birth is so fine, that the absence of registration of still-births leaves the door open to many dangers.

In accordance with the Rules of the Central Midwives Board under the Midwives Act, notices of 68 still-births were sent to the County Council by certified Midwives during the year. These must be a very small portion of the whole number.

In the following tables the birth-rates of the different districts in the County are given for the year 1905, and also for the past 10 years. From these it will be clear that the distinction into Urban and Rural Districts does not separate the high birth-rates from the low; but that the high birth-rates prevail in the coal mining and manufacturing portions of the County, whether they are denominated Urban or Rural, and the low birth-rates in the agricultural and residential portions.

#### BIRTH-RATE FOR 1905, PER 1,000 OF THE POPULATION.

URBAN DISTRICTS.	RATE.	RURAL DISTRICTS.	RATE.
Mansfield Woodhouse ..	47·5	Misterton .. ..	30·4
Warsop .. ..	36·4	Stapleford .. ..	30·4
Hucknall Huthwaite ..	35·5	Basford .. ..	29·2
Kirkby-in-Ashfield ..	34·2	Skegby .. ..	28·9
Sutton-in-Ashfield ..	34·2	Newark .. ..	24·9
Worksop .. ..	33·3	Blyth and Cuckney ..	23·0
Newark .. ..	31·5	Leake .. ..	22·9
Hucknall Torkard ..	30·6	Southwell .. ..	21·9
Mansfield .. ..	30·1	East Retford .. ..	20·9
Arnold .. ..	29·4	Bingham .. ..	20·3
Carlton .. ..	28·6	Kingston and Ratcliffe ..	14·4
East Retford .. ..	26·6	Average .. ..	25·4
Beeston .. ..	26·4		
Eastwood .. ..	26·3		
West Bridgford .. ..	17·2		
Average .. ..	30·7		

#### AVERAGE BIRTH-RATE FOR THE TEN YEARS, 1895 1904, PER 1,000 OF THE POPULATION.

URBAN DISTRICTS.	RATE.	RURAL DISTRICTS.	RATE.
Hucknall Huthwaite ..	44·6	Skegby .. ..	36·5
Warsop .. ..	42·2	Stapleford .. ..	32·0
Kirkby-in-Ashfield ..	40·9	Basford .. ..	31·7
Sutton-in-Ashfield ..	39·6	Misterton .. ..	28·0
Mansfield Woodhouse ..	38·0	Blyth and Cuckney ..	26·4
Hucknall Torkard ..	37·9	Leake .. ..	25·6
Mansfield .. ..	34·2	Newark .. ..	25·4
Eastwood .. ..	34·1	East Retford .. ..	24·9
Worksop .. ..	33·7	Southwell .. ..	24·7
Arnold .. ..	31·8	Bingham .. ..	23·6
Carlton .. ..	31·4	Kingston and Ratcliffe ..	19·8
Beeston .. ..	30·4	Average .. ..	27·9
Newark .. ..	28·4		
East Retford .. ..	27·3		
West Bridgford .. ..	20·0		
Average .. ..	33·7		



**Deaths.**—The number of deaths registered in the County in 1905 amounted to **4,451**, compared with 4,375 in the previous year. *Of these 1,121, or rather more than one-quarter, occurred in infants under one year of age.*

The death-rate per 1,000 of the population was **14·3**. By reference to Table XII. in the Appendix, the interesting and important fact will be ascertained that the death-rate has not varied more than 0·4 per 1,000 during the last 4 years.

The Urban death-rate was **13·9** and the Rural **14·9**. Thus for the third year in succession the Rural death-rates have exceeded the Urban. A further reference to Table XII. will show that this phenomenon is on this occasion not confined to Nottinghamshire. The death-rate of the 141 “Smaller Towns” in England and Wales, as published by the Registrar General, is lower by 0·5 per 1,000 than the death-rate of “England and Wales less the 217 towns.”

The higher death-rate of the Rural Districts is a fact. A complete and satisfactory explanation is difficult. It is partly owing, as stated in previous Reports, to the difference in age and sex constitution between the populations of the Urban and of the Rural districts. The Rural districts contain a larger proportion of males and of old persons, amongst whom the death-rates are higher.

\*Dr. Tatham, Superintendent of Statistics in the General Register Office, calls attention to the “striking differences between Urban and Rural mortality at the several ages. For whilst in the first five years of life the death-rate in the Rural area is only about two-thirds of that of the Urban, the difference becomes less and less marked at the subsequent ages, until at ages 20–25 among men, and 15–25 among women, the mortality is actually higher in the Rural than in the Urban area. As regards young women of this age, it is important to realize that many of them are employed as domestic servants in the towns, where they remain only as long as their health continues good. In case of serious illness they return to their homes in the country, and, in the event of a fatal issue their deaths are attributed to the Rural district, although at the census they had been counted as part of the Urban population. Some of the excess of mortality among young women in the Rural districts may, in this way, with some probability be accounted for. At later stages of life up to the 65th year, the mortality in the country again falls considerably below that of the town; but at ages above 65 the difference is less pronounced. The foregoing remarks apply equally to the data for the year 1904 and to those for the previous quinquennium.”

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\* Registrar-General's Report for 1904.

By making the the appropriate *corrections for age and sex constitution* of the Urban and Rural districts, assuming that the proportions of each sex remain the same as at the census of 1901 (and there is no information since that date), the rates are altered as follows :—

UNCORRECTED.				CORRECTED.			
Whole County.		Urban.	Rural.	Whole County.		Urban.	Rural.
1901	..	14·9	.. 15·4	..	14·3	.. 15·5	.. 12·8
1902	..	14·4	.. 14·8	..	13·8	.. 14·9	.. 12·4
1903	..	14·0	.. 13·8	..	13·4	.. 13·9	.. 12·8
1904	..	14·4	.. 14·2	..	13·8	.. 14·3	.. 13·1
1905	..	14·3	.. 13·9	..	13·7	.. 14·0	.. 13·4

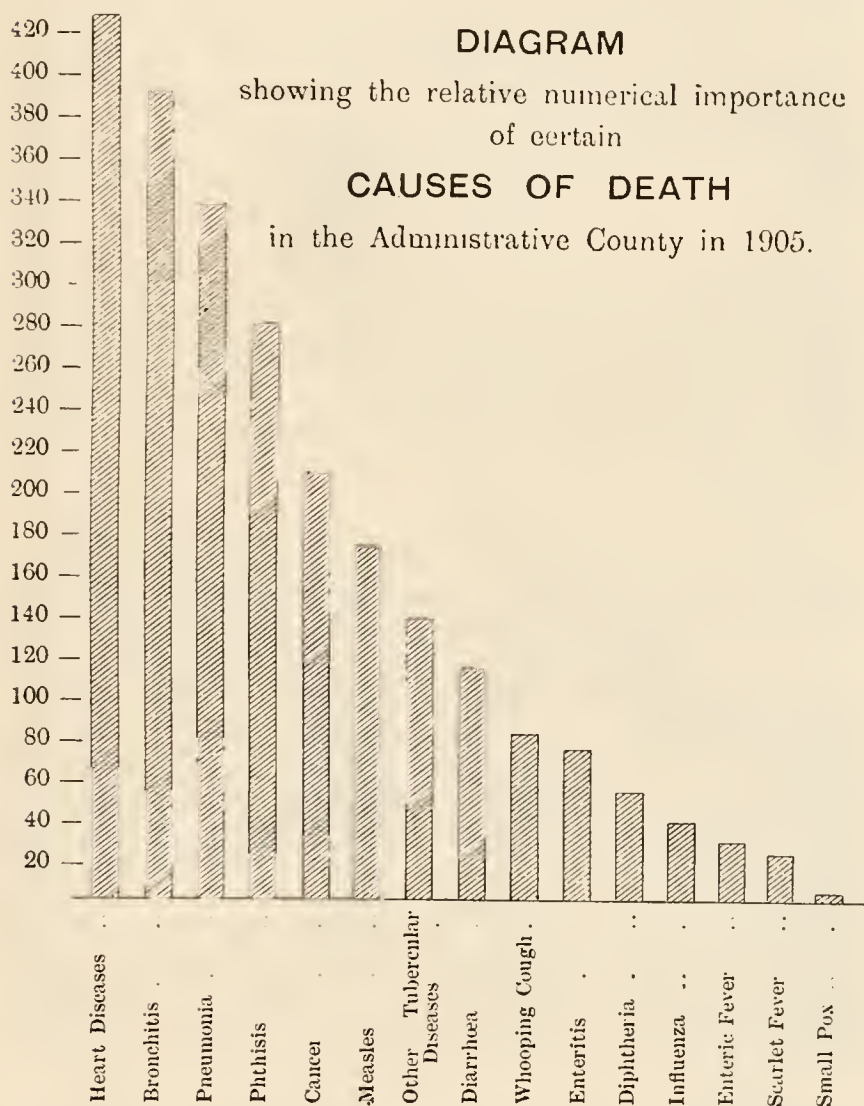
Thus, the Urban rates are very slightly raised and the Rural considerably lowered, being reduced below the Urban rates. It should not be forgotten, however, that it is only for the last three years that the uncorrected Rural death-rate, *which represents the crude facts*, has exceeded the Urban; whereas the factors for correction for age and sex constitution, have been calculated from the age and sex constitution, shown to exist in this County at the date of the Census of 1901, or two years earlier, when the Urban death-rate exceeded the Rural, as had always previously been the case.

It is clear that there is a change in the relation of the Urban to the Rural death-rates, and that change has been brought about by a tendency to diminution in the Urban rates and to increase in the Rural rates.

It would appear, therefore, that there is still something to be explained besides the difference in age and sex constitution; and it is possible that something may be the greater sanitary progress of the Urban Districts, especially as regards water supply and housing.

The number of deaths from each of a large number of causes are given in the Appendix of this Report in Tables VI.-IX., which have been drawn up according to the requirements of the Local Government Board; but the following graphic representation shows at a glance the relative importance of some of the more common diseases, and groups of diseases, as causes of loss of life to the community. By comparing the diagram with that in last year's Report, the changes which have taken place in 1905 will be rapidly appreciated. It will be seen that Heart Diseases, Bronchitis, Pneumonia and Phthisis, continue to occupy the first four columns, in the same order as last year, although each column has required to be lengthened, indicating a larger number of deaths. Cancer takes the fifth place instead of the sixth; and Measles moves up to

the sixth column from the eleventh on account of the very wide spread and fatal epidemic of 1905. The deaths from Diarrhœa occupy the eighth column instead of the fifth, indicating rather less than half the number represented in 1904, for reasons which are discussed under the heading Diarrhœa, among the non-notifiable infectious diseases. The other columns show no change in order and very little in length.



The following two tables give the death-rates for the different districts in the County for the year 1905, and also the average for the past 10 years. The former is the nett death-rate, and

is corrected by the exclusion of the deaths of non-residents registered in the district, and the inclusion of residents registered in Asylums, Workhouses, and Hospitals outside the district. The latter is the gross rate, because the method of correction described was only introduced into the Local Government Board tables a few years ago, and for the earlier years the corrected rates are not available.

NETT OR CORRECTED DEATH-RATE FOR 1905, PER 1,000 OF  
THE POPULATION.

URBAN DISTRICTS.	RATE	RURAL DISTRICTS.	RATE
Mansfield .. ..	17·3	Leake .. ..	18·0
Hucknall Huthwaite ..	16·1	Southwell .. ..	16·6
Newark .. ..	15·7	Bingham .. ..	15·4
East Retford .. ..	15·3	Misterton .. ..	15·1
Arnold .. ..	15·3	Newark .. ..	14·9
Eastwood .. ..	15·3	East Retford .. ..	14·6
Hucknall Torkard ..	14·9	Stapleford .. ..	14·4
Warsop .. ..	14·8	Basford .. ..	14·3
Mansfield Woodhouse ..	14·7	Skegby .. ..	13·4
Worksop .. ..	14·6	Blyth and Cuckney ..	12·4
Sutton-in-Ashfield ..	13·4	Kingston and Ratcliffe ..	9·6
Beeston .. ..	12·0		
Carlton .. ..	11·7		
Kirkby-in-Ashfield ..	11·1		
West Bridgford ..	6·8		
Average .. ..	13·6	Average .. ..	15·0

AVERAGE GROSS DEATH-RATE FOR THE TEN YEARS, 1895-1904,  
PER 1,000 OF THE POPULATION.

URBAN DISTRICTS.	RATE	RURAL DISTRICTS.	RATE
Hucknall Huthwaite ..	18·4	Southwell .. ..	16·4
Sutton-in-Ashfield ..	17·6	Bingham .. ..	15·8
Mansfield .. ..	17·5	Skegby .. ..	15·4
Worksop .. ..	17·4	Basford .. ..	14·6
Newark .. ..	16·9	Stapleford .. ..	14·4
Mansfield Woodhouse ..	16·9	East Retford .. ..	14·3
Warsop .. ..	16·9	Blyth and Cuckney ..	14·1
Hucknall Torkard ..	16·6	Leake .. ..	14·1
East Retford .. ..	15·5	Misterton .. ..	14·0
Eastwood .. ..	15·5	Newark .. ..	13·4
Kirkby-in-Ashfield ..	15·5	Kingston and Ratcliffe ..	13·0
Arnold .. ..	15·1		
Beeston .. ..	13·1		
Carlton .. ..	12·9		
West Bridgford ..	8·7		
Average .. ..	15·9	Average .. ..	14·9

The corrections for 'residents' and 'non-residents' have now been made more or less in all the districts, except four or five.



In order to facilitate these somewhat troublesome corrections, the County Medical Officer has this year, through the kindness of the Officers concerned, obtained the lists of deaths of residents in the County from the County Asylum, the Nottingham General Hospital, the Nottingham Children's Hospital, and the Basford Workhouse, and distributed them to the Medical Officers of Health of the various Sanitary districts. In addition, the deaths in the Mansfield Hospitals and Workhouse, the Newark Hospital and Workhouse, the Retford Hospitals and Workhouse, the Sheffield General Hospital, and other institutions, have been distributed by the Medical Officers concerned. The result is that the statistics are more accurate than in any previous year, and the nett deaths are now 40 more than the total deaths registered in the County. It is hoped that in a few years still greater accuracy will be obtained.

The necessity of making these troublesome corrections is rendered very evident in such a case as that of Bingham, in which district the County Asylum is situated. Of the 288 deaths registered in the Bingham Rural District, 65 took place in the Asylum, and of these six only belonged to the Bingham Rural District. Consequently, 59 deaths were deducted, reducing the death-rate from 20·4 to 15·4.

**Zymotic Death-Rate.**—The death-rate from the principal Zymotic diseases, namely, Small Pox, Scarlet Fever, Whooping Cough, Fever (comprising Typhus, Typhoid, and Continued), Diarrhœa or Epidemic Enteritis, Diphtheria, and Measles, was 1·63 per 1000 for the whole County. The Urban rate was 1·83, and the Rural 1·32. This is the usual classification.

The deaths from Diarrhœa and Epidemic Enteritis form a very large proportion of the Zymotic deaths; and, consequently, the Zymotic death-rate is mainly influenced by them. But, unfortunately, the deaths from disorders of the intestine, of which Diarrhœa is the chief symptom, are arbitrarily divided into classes, some of which, such as Epidemic or Zymotic Enteritis are included among the Zymotic deaths, and others such as Simple Enteritis and Gastro-Enteritis are excluded. This arbitrary and uncertain method of classification makes the Zymotic death-rate of very little value as an index of the prevalence of epidemic diseases.

**Infantile Death-rate.**—This is a matter of great and growing importance, especially in a country with a rapidly falling birth-rate. The infantile death-rate fluctuates from year to year, mainly in accordance with seasonal influences.



But, though there has been a progressive and marked decline in the death-rate from many diseases during the last 50 years, the infantile death-rate has shared very slightly in the decline, as will be seen from the following table:—

### INFANT MORTALITY.

ENGLAND AND WALES.			LONDON.		
PERIOD.	Annual Mortality of Infants under one year of age per 1000 births.		PERIOD.	Annual Mortality of Infants under one year of age per 1000 births.	
1851—1860 .. ..	154		1841—1850 .. ..	157	
1861—1870 .. ..	154		1851—1860 .. ..	155	
1871—1880 .. ..	149		1861—1870 .. ..	162	
1881—1890 .. ..	142		1871—1880 .. ..	158	
1891—1900 .. ..	154		1881—1890 .. ..	152	
			1891—1900 .. ..	160	

The year 1905 was unusually favourable to infant life, mainly owing to the number of rainy days in August and September, and the consequent very small amount of Epidemic Diarrhoea, which is usually so fatal, especially during these months. The rate for this County was 126 deaths per 1000 births, which is the lowest on record; the next lowest being 130 in 1894, and 138 in 1891. For the Urban Districts, the rate was 133, and for the Rural 114.

The rate for England and Wales less the 217 towns, was 113, showing that 126 for the County of Notts. is still too high.

The following tables give the Infantile Mortality for each of the 26 Districts in the County for the year 1905, and also the average for the ten years, 1895—1904:—

### RATE OF INFANTILE MORTALITY FOR 1905, PER 1000 BIRTHS.

URBAN DISTRICTS.			RATE.	RURAL DISTRICTS.			RATE.
Eastwood .. ..	197			Skegby .. ..	164		
Hucknall Huthwaite .. ..	187			Stapleford .. ..	131		
Warsop .. ..	184			Newark .. ..	130		
Mansfield .. ..	165			Basford .. ..	118		
Arnold .. ..	161			Misterton .. ..	118		
Sutton-in-Ashfield .. ..	142			East Retford .. ..	114		
Mansfield Woodhouse .. ..	137			Bingham .. ..	108		
Hucknall Torkard .. ..	130			Leake .. ..	96		
Worksop .. ..	128			Southwell .. ..	88		
Kirkby-in-Ashfield .. ..	127			Blyth and Cuckney .. ..	45		
Carlton .. ..	116			Kingston and Ratcliffe .. ..	0		
Beeston .. ..	104						
East Retford .. ..	94			Average .. ..	114		
Newark .. ..	91						
West Bridgford .. ..	65						
Average .. ..	133						

AVERAGE RATE OF INFANTILE MORTALITY FOR THE TEN  
YEARS, 1895-1904, PER 1000 BIRTHS.

URBAN DISTRICTS.		RATE.	RURAL DISTRICTS.		RATE.
Hucknall Huthwaite	..	200	Skegby	.. ..	162
Mansfield Woodhouse	..	185	Basford	.. ..	145
Worksop	.. ..	178	Stapleford	.. ..	142
Sutton-in-Ashfield	..	175	Blyth and Cuckney	..	125
Arnold	.. ..	172	Misterton	.. ..	121
Hucknall Torkard	..	169	Southwell	.. ..	111
Kirkby-in-Ashfield	..	167	Newark	.. ..	109
Eastwood	.. ..	165	East Retford	.. ..	103
Warsop	.. ..	159	Bingham	.. ..	96
Mansfield	.. ..	158	Kingston and Ratcliffe	..	85
East Retford	..	149	Leake	.. ..	72
Carlton	.. ..	146	Average	.. ..	125
Newark	.. ..	142			
Beeston	.. ..	128			
West Bridgford	..	82			
Average	.. ..	161			

To what extent is this large Infantile Mortality preventable? From an interesting work written by Mr. Charles Ansell, Actuary of the National Life Assurance Society, in 1874, on statistics of families in the upper and professional classes, reckoned from probably some 20,000, it was shown that the Infantile Mortality for males was 89, and for females 70. If we then turn to the ten years average for Bingham, Leake and West Bridgford, we cannot fail to come to the conclusion that any excess over 100 deaths per 1000 births should be preventable without insuperable difficulty. According to Sir Douglas Powell, of the ordinary Infantile death-rate "a margin of at least 60 or 70 per cent. would seem to be attributable to conditions connected with the insanitation of poverty, most of which is theoretically, and much of which is practically preventable."

We hear much in protestation against the diminishing birth-rate in this country. *Do we take sufficient, reasonable care of those that are born.* And, what is more to the point, *are the circumstances under which so large a proportion of them die such as to damage the lives of the survivors?* The survival of the fittest is a conception only applicable in its brutality to wild life in the animal and vegetable kingdoms. If the game were fairly played, civilised life would be impossible.

Conditions which kill 12·5 per cent., maim and stunt and make weaklings of at least a proportion of those that remain, and cause them to be further decimated or weakened by such diseases as Rickets, Measles, Whooping Cough, Bronchitis and Tuberculosis in early life.

When we come to enquire into the causes of this lamentable infantile mortality we find that they are multiple. By far the most prolific cause in 1905 was "*premature birth*," to which 175 infants succumbed, some of them after living for *eight or nine months*. This term requires further elucidation. No, doubt, children born between the 7th and 9th month, although viable, are less mature and more delicate than children born at the full term; but, nevertheless, so many of them live and grow into strong and healthy men and women that some additional cause of death seems required. And this is usually to be found in want of care and want of proper feeding on the part of the mothers. The only method of dealing with this important but difficult question upon a large scale that has hitherto proved useful, and that has stood the test of experience, is the employment of lady Health Visitors or lady Inspectors—a plan which has been advocated in these Reports for three or four years past, and which has been carried out with much success by several County and County-Borough Councils.

The work of Health Visitors would be much facilitated by the carrying out of the following suggestions made by the Registrar-General in his Annual Report for 1904, page 49:— "After serious consideration of the situation as it presents itself to me, I have come to the conclusion that, whilst it would be unwise at present to disturb the existing organization of birth registration, a well devised system of early *notification* of births—legalized and worked in conjunction with the present registration system on the one hand, and with sanitary administration on the other—might, along with other motive forces, serve as a most effective and lasting barrier with which to stem the tide of "*Infant Mortality*."

Dr Tatham in the same Report states:—"The subject of infant life preservation has already achieved in the public mind a degree of importance that had never previously been attained since the establishment of civil registration in this country."

The serious importance of this great loss of infant life has at last made itself widely felt, and has led to the summoning of a "National Conference on Infantile Mortality," of which the Right Hon. John Burns, M.P., will be President. The Chairman of the London County Council and the Lord Provost of Glasgow will be Chairman and Vice-Chairman. It is hoped that as a result some practical remedial measures may be adopted.

## NOTIFICATION OF INFECTIOUS DISEASES.

During the year 1905 the number of cases of Infectious Disease notified formed 8·6 per 1,000 of the population of the whole County, compared with 6·6 per 1,000 in 1904. The Urban Districts were affected to the extent of 9·2 per 1,000, compared with 6·7 in 1904; and the Rural to the extent of 7·6, compared with 6·4 in 1904.

Year.		Number of notified cases.		Number removed to Hospital.		Per centage of removals.
1895	..	1355	..	11	..	0·8
1896	..	1808	..	76	..	4·2
1897	..	1409	..	93	..	6·2
1898	..	1624	..	121	..	7·4
1899	..	2430	..	148	..	6·0
1900	..	2292	..	180	..	7·8
1901	..	1780	..	159	..	8·9
1902	..	1443	..	110	..	7·6
1903	..	1744	..	286	..	16·3
1904	..	2022	..	259	..	12·7
1905	..	2673	..	380	..	14·2

## DISINFECTION.

The great need of most districts is an *efficient* steam disinfecting stove, which at present very few possess. The Central Midwives Board in their Rules evidently contemplated that a steam disinfecting stove would be available in all sanitary districts.

In this connection, it is important for those in authority to remember that a high-pressure steam disinfecting stove is a complex piece of mechanism which should be placed in the charge of a skilled person. Otherwise, inefficient results may follow, as it is quite easy so to use the stove that hardly any disinfection takes place. It may also not be out of place to repeat that there is no economy in buying a cheap disinfecting stove; but that, in order to be able to depend upon obtaining the best results, a high-pressure steam disinfecting stove should be purchased, which may be expected to remain efficient for twenty years or more.

Dr. Wills (Mansfield), writes:—"The new Steam Disinfecting apparatus has been of very great value by purifying infected bedding, clothing, etc."

Dr. Jones (Hucknall Torkard), writes:—"I would strongly advise the Council to purchase an efficient disinfecting apparatus for clothing, etc., as the one obtained some years back does not act in a satisfactory manner. I believe that a disinfecting apparatus which would answer the purpose, could be obtained at a moderate outlay."



Dr. Knight (Carlton), writes :—“Amongst the requirements “which are still short of attainment in this populous district, “are a Steam Disinfector, Refuse Destructor, Isolation “Hospital for Diphtheria and Scarlet Fever, Recreation “Grounds, and Public Baths.”

Dr. Rothera (Beeston), writes :—“In several cases, the “room in which a consumptive has died has been disinfected “by the Council, and I would again wish to take this “opportunity of saying how important this is, and how “willing your sanitary officials are to do this work, if their “attention be called to the matter, either by the medical man “in attendance upon the case, or by the relations of the “deceased.”

### SCHOOL HYGIENE.

\* “It is a proof of the perversity of human nature that it is “still necessary to discuss the relation between education and “health.”

“For healthy men and women who are not very intelligent “or very good, may have children who are both physically “healthy and strong, and very good and clever ; while men “and women who are very clever and good, if they have ruined “physical constitutions, cannot have children who are physically “healthy as well as intelligent and clever. And though it is “possible for the individual, especially if he have a considerable “income, to be good and clever and sickly ; this is not possible “for a family living under the conditions which affect the lives “of ninety-nine hundredths of the community. For the “ordinary family, lack of physical health and strength means “unemployableness and morbid thought and feeling ; and un- “employableness and morbid thought and feeling mean loafing, “vice, crime.”

“The German child normally begins to go to school when “it has completed its sixth year. In nearly all German towns “the elementary schools are now under the charge of school “doctors, one of whose duties it is to examine every child before “it begins to go to school. If a child of six is in such a “condition of health that the doctor believes that it will suffer “from beginning school life, he defers its entry into a school “for a year. The number of children who are thus caused to “begin school life only on the completion of their seventh year “is considerable. In some places as many as 10 per cent. of “the children are thus treated. There are, therefore, a good “many delicate children who spend their seventh year at home,

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\* By T. C. HORSEFALL, *The Contemporary Review*, March, 1906.



“and a much larger number of more robust children who spend their seventh year in school. *Dr. Schmid-Monnard found that going to school almost stopped the increase of weight in girls for a year, and much diminished their increase in height; and that the more robust boys in Halle who spent their seventh year in school on an average increased 21 per cent. less in weight, and 43 per cent. less in height than the more delicate boys who passed their seventh year at home.*”

† “There is not a single desirable attribute which, lacking in a plant, may not be bred into it. Choose what improvement you wish in a flower, a fruit, or a tree, and by crossing, selection, cultivation, and persistence, you can fix this desirable trait irrevocably. Pick out any trait you want in your child, granted that he is a normal child,—I shall speak of the abnormal later,—be it honesty, fairness, purity, loveliness, industry, thrift, what not. By surrounding this child with sunshine from the sky and your own heart, by giving the closest communion with nature, by feeding them well-balanced nutritious food, by giving them all that is implied in healthful environmental influences, and by doing all in love, you can thus cultivate in this child, and fix there for all their life all of these traits. Naturally not always to the full in all cases at the beginning of the work, for heredity will make itself felt first, and, as in the plant under improvement, there will be certain strong tendencies to reversion to former ancestral traits; but, in the main, with the normal child, you can give him all these traits by patiently, persistently guiding him in these early formative years.”

“So also of the physically weak. I have a plant in which I see wonderful possibilities, but it is weak. Simply because it is weak, do I become discouraged and say it can never be made strong, that it would better be destroyed? Not at all; it may possess other qualities of superlative value. Even if it never becomes as robust as its fellows, it may have a tremendous influence. Because a child is a weakling, should it be put out of the way? Such a principle is monstrous. Look over the long line of the great men of the world, those who have changed history and made history, those who have helped the race upward—poets, painters, statesmen, scientists, leaders of thought in every department,—and you will find that many of them have been physically weak.”

During the year 1905, 142 schools were closed under Article 57 of the Code, on account of the prevalence of infectious

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† “The Training of the Human Plant,” by Luther Burbank.  
*The Century*, May, 1906.

disease. Of these, 107 were closed for Measles, 22 for Scarlet Fever, 16 for Whooping Cough, 6 for Mumps, 4 for Small Pox, 4 for Chicken Pox, 3 for Diphtheria, and 2 for German Measles (Rötheln).

The duration of the closure varied, but was most frequently three weeks. In many instances the period was prolonged by a second closure before the school had re-opened.

The closure of a school is a drastic remedy, which should not be lightly or hastily undertaken, on account of the serious interference with the progress of education. It is sometimes an efficient means of checking the spread of an epidemic, especially in small villages. But, if this result is to be expected, the closure must take place as soon as the first few cases are detected, and must not be delayed until the epidemic has already passed beyond control. In a large number of instances schools are not closed until the epidemic has spread so as to reduce the attendance to such small proportions that it is not worth while to continue to keep the school open. The epidemic then runs its natural course, little influenced by school closure.

In the case of Measles, in which disease over 90 per cent. of the deaths occur in children under five years of age, the interests of the Public Health will frequently be met by closing the *Infants' Department only*.

It is quite clear from the figures previously given, that the progress of Education in the County during 1905, was greatly impeded by the large amount of school closure on account of the prevalence of Measles. It becomes important, therefore, to seriously consider whether the amount of school closure can be lessened without injury to the Public Health.

There can be no doubt that the principal spread of Measles is by means of schools.

“Dr. Kerr, the Medical Officer to the London Education Authority, and Dr. Davies, the Medical Officer of Health of Woolwich, have adopted a plan with regard to school closure for Measles which has proved successful on several occasions.”

The following is a brief explanation of the practice adopted:—“It seems certain that Measles, unlike Scarlet Fever and Diphtheria, is almost always introduced into a school by a child suffering from this disease attending in the early stage. If an epidemic in a school be inquired into, this first case from which all the others have arisen, will generally

“be discovered. The incubation period of Measles is from “10—12 days or 14 days to the appearance of the rash, and it “is consequently about this time after the attendance of the “first infectious child that the first crop of cases may be “expected. If the school is kept open, in another 12 or 14 “days a second crop of cases will occur. Dr. Kerr finds “that the second crop of cases almost exhausts the susceptible material, *i.e.*, the epidemic usually comes to “an end or almost to an end with the second crop. This last “statement is a most important one, for it means that there is “no object in closing a school except after the first case, and “before the first crop of cases has broken out. If the first “case is overlooked and the school is kept open until after the “first crop, it may as well be kept open throughout. This, “however, is not absolutely correct, because a third crop, “generally of smaller dimensions, often breaks out, and this “might be prevented.”

“It is quite evident, however, that the proper action is *to “close the school after the first case for such a period as to cover “the time of onset of illness of the first crop of cases. The “children affected would then develop the disease at home “instead of at school.”*

“For this purpose 7—9 days closure is generally sufficient, “and in many cases it is unnecessary to close the whole “department, for class closure has been found very efficient.”

“A good rule for general application would be *to keep the “school open for a week after the day on which the infectious “child had attended, and then close for ten days.* This would “require slight modification according to the stage of the first “case whilst attending school.”

It is necessary to point out the vital importance of *really efficient* disinfection of the school buildings and furniture after a school has been closed on account of the prevalence of infectious disease; and also the value of periodical, though perhaps less drastic, disinfection in the absence of less serious epidemics. Where large numbers of children are congregated together daily in buildings often very imperfectly ventilated, the walls, ceilings, and furniture become impregnated with exhalations of organic matter.

And, finally, it should not be forgotten that the sanitary methods of an Elementary School are a constant **object-lesson** which the children are slow to forget, when they grow up and become the working men and women of the next

generation. It cannot reasonably be expected that children should look for a higher standard of sanitary efficiency in their own homes, than that which they have been taught to believe to be sufficient for a Public Institution under the inspection of the Central Government.

May we agree with Edmund Burke in saying:—"I am aware that the age is not what we all wish; but I am sure the only way to check its degeneracy is heartily to concur with whatever is best in our time."

### MIDWIVES ACT, 1902.

This Act, "to secure the better training of Midwives and to regulate their practice," came into operation, except as otherwise provided, on April 1st, 1903.

It will be easily understood that an Act of this kind was required, when it is stated that there is reason to believe that at least 60 per cent. of the births in England and Wales are attended by Midwives; and it is known from the Reports of the Registrar-General that there are about 2000 deaths of mothers annually from Puerperal Fever.

The operation of Section 2 of the Midwives Act, which made provision for existing Midwives being placed on the Roll, expired on March 31st, 1905.

The first complete Roll was published by the Central Midwives Board in July, 1905, and contained 22,308 names.

Of these, 184 notified their intention to practise as Midwives in this County during the year 1905.

There were in addition in the County in 1905, sixteen persons who possessed the certificate of the Central Midwives Board, but who stated they had no intention of practising.

And, further, several women possessing the certificate of the Central Midwives Board state that they only practise as monthly nurses under the direction of a qualified medical practitioner, and not as Midwives.

In addition to the certified Midwives, there are in this County about 150 Midwives who practise occasionally, but have not received certificates. These women cannot now obtain a certificate except by examination, but they will be at liberty to continue to practise until April 1st, 1910, provided they do not call themselves Midwives, or profess to be specially qualified.



Section 1, sub-section (1) of the Midwives Act runs:—  
 “From and after the first day of April, 1905, any woman who  
 “not being certified under this Act shall take or use the name  
 “or title of Midwife (either alone or in combination with any  
 “other word or words), or any name, title, addition, or descrip-  
 “tion implying that she is certified under this Act, *or is a*  
 “*person specially qualified to practise midwifery*, or is recognised  
 “by law as a Midwife, shall be liable on summary conviction  
 “to a fine not exceeding five pounds.”

Section 1, sub-section (2) runs:—“From and after the  
 “first day of April, 1910, no woman shall habitually and for  
 “gain attend women in child-birth otherwise than under the  
 “direction of a qualified medical practitioner, unless she be  
 “certified under this Act; any woman so acting without being  
 “certified under this Act shall be liable on summary conviction  
 “to a fine not exceeding ten pounds, provided this section shall  
 “not apply to legally qualified medical practitioners, or to any  
 “one rendering assistance in a case of emergency.”

Most of these uncertified Midwives do comparatively little work, and are a diminishing body. Many of them act chiefly as monthly nurses under the direction of a doctor.

The whole of the 184 Midwives who notified their intention to practice in this County in 1905, have been visited by the Nurse Inspector of Midwives, who has inspected their case books, bags of appliances, &c., and investigated their mode of practice, as required by the Rules of the Central Midwives Board. For the first nine months of the year, the inspection was undertaken by Miss Ross, Superintendent of the Notts. Nursing Federation, who only gave a portion of her time to the work. With the increasing number of Midwives it was not found possible under this arrangement that each Midwife should be visited even once a year. Consequently, from the beginning of October Miss Lessey, formerly Superintendent of the Gravesend General Hospital, was appointed to give her whole time to the duty of inspection. It is now found possible to visit the majority of the Midwives every three months, and those requiring special supervision are visited more frequently. A very great improvement is already noticeable in the care, cleanliness, and general mode of practice of these Midwives. Much time and trouble have been expended by the Inspector in explaining to each Midwife the Rules of the Central Midwives Board, the use of the Clinical Thermometer, and other necessary details. Twenty-six cases of Puerperal Fever were investigated during the year, and in twenty-five instances



a Special Report was received from the Medical Officer of Health of the district, further details of which are given upon page 37 under the heading of Puerperal Fever. Each of these cases was investigated by the County Medical Officer. All other cases of difficulty—and they are numerous—are referred by the Inspector to the County Medical Officer each week as they arise, and are dealt with on their merits. In only two instances was it found necessary for the Committee to suspend a Midwife from practice under Section 8 (3) of the Midwives Act to prevent the spread of infection. Hitherto, it has been found possible by patient advice and persuasion to remedy many faults and irregularities without the necessity of making any formal complaint against a Midwife to the Central Midwives Board, who have the power to take away a certificate for various offences. How long the Committee will remain in this fortunate position is very uncertain; but it is much more satisfactory to accomplish improvements by kindness, rather than by punishment, so long as it is possible.

The Rules of the Central Midwives Board were only sanctioned by the Privy Council for a period of three years, which will expire in August, 1906. Several of the rules were found to be very difficult to carry out satisfactorily in practice, and suggestions for their amendment were invited from County and County Borough Medical Officers, and from others interested in the administration of the Midwives Act. The new rules have not yet been made public, but it is believed that several important alterations are being made, and it is expected that they will come into force in August.

The lectures mentioned in last year's Report have been commenced, and one series given by Miss Lessey at Mansfield has been completed. There was an attendance of 38, notwithstanding persistent cold, wet weather, and the lectures have been a great success. They will be continued at Retford, Newark, and Nottingham.

During the year the following notices under the Rules of the Central Midwives Board have been received, and, where necessary, special investigations have been made into the attendant circumstances:—

Records of sending for Medical help	...	...	177
Notices of still birth	...	...	68
Notices of death of child before arrival of doctor			12
Notices of death of mother before arrival of doctor	...	...	0
Changes of address notified to the Central Midwives Board	...	...	51

## ISOLATION HOSPITALS.

The following extracts explain the additions that have been made during the year together with the most urgent further requirements :—

Dr. Wills (Newark) writes :—“ After repeated discussion, “ the building of two Hospitals on the site you purchased for “ the purpose was abandoned as too expensive, and it was “ decided to build a single small Hospital, divided into three “ isolated Wards, where it was thought, by providing additional “ accommodation to that you already have for Scarlet Fever at “ the Muskham Cottage Hospital, there might be found also “ means for the isolation of Diphtheria or Typhoid Fever in an “ emergency, with a distinct nurse. Those cases of Scarlet “ Fever complicated with Diphtheria, or discharges from the “ ears, nose, or throat, might be isolated from simple cases, to “ prevent the troublesome consequences which have occurred “ in other places. It was agreed that the newer wooden “ buildings which have been provided in recent years for Small “ Pox should be moved to an isolated spot on the new field, “ where they would be ready if a case of Small Pox was “ imported, and in the event of an epidemic of Small Pox the “ new brick building should be cleared, disinfected, and used.”

“ I advised you not to move the present wooden buildings “ until the Isolation Hospital was quite ready for use.”

“ As to the general question of the provision of means of “ isolation, I consider that good accommodation ought to be “ provided in a sensible way ; that the Hospital ought not to “ be either too large or too small, but that it should be “ thoroughly good, so that no patient from any family in the “ district could have any reasonable ground for objecting to go “ to it, and that the nurses, caretaker, and servants employed “ should be made comfortable, so that the services of good and “ skilful persons could be readily obtained.”

“ There is an idea too prevalent that rough accommodation “ is good enough for infectious disease. It is time that in an “ enlightened community such an idea was abandoned, for it “ is an absurdity to think that a person with a fractured leg or “ Pneumonia requires the best accommodation, as it is provided “ in Newark, but a person who is isolated for the public good “ to prevent the spread of a serious infectious disease into “ a great public scourge, may have rough accommodation.”

Dr. Harvey Francis (Arnold), writes:—"The question of hospital isolation of Scarlet Fever is always a difficult matter for small communities like ours, and unless the County Council take the subject up, and devise some scheme for an Isolation Hospital for small Urban Districts, the only alternative is for us to join with districts in a similar predicament, and have a joint Hospital."

Dr. Broadbent (Newark Rural), writes:—"Newark has decided not to join with us in the erection of an Isolation Hospital, so that the day when your Authority have a Hospital to remove infectious cases to, seems further off than ever."

"It does not seem right that 7,973 people scattered through a narrow district nearly 30 miles long should be called upon to build and equip a Hospital which often would be empty. Still, it is very awkward dealing with epidemic disease, especially in thickly populated places like New Balderton, and it is to be hoped the County Council will be able to remedy the matter some day. We do pay a retaining fee for a field in case of an outbreak of Small Pox, and I am afraid for the present I can advise nothing further."

Dr. Wills (Southwell), writes:—"The Southwell Rural District Council resolved to advertise for tenders to build a small brick Hospital. A building has been put up at the extreme end of the ground bought for the isolation of Small Pox, and now the cottage, in the absence of Small Pox, will serve as an administrative block, and the present caretaker should take charge of the Scarlet Fever Hospital."

## NOTIFIABLE INFECTIOUS DISEASES.

**Small Pox.**—During the year 1905, the County again suffered from Small Pox, but the mortality was very small. The cases notified numbered 92, among whom there were only 3 deaths. The Urban Districts had 91 cases with 3 deaths, and the Rural 1 case with no death.

The following table gives the number of cases in the different Districts, together with details as to Vaccination :—

### SMALL-POX, 1905.

DISTRICTS.	CASES.								DEATHS.	
	TOTAL CASES.	Removed to Hospital.	Treated at Home.	No evidence of Vaccination.	Vaccinated in Infancy only.	Vaccinated only after infection by Small Pox.	Stated to have been vaccinated but no scars.	Re-vaccinated.	TOTAL DEATHS.	No evidence of Vaccination.
MANSFIELD .. ..	15	15	..	1	14	..	..	..	3	..
HUCKNALL TORKARD ..	62	60	2	26	33	3	..	..	3	..
MANSFIELD WOODHOUSE	1	1	..	1	..	..	..	..	..	..
WORKSOP .. ..	13	13	..	..	12	..	..	*1	..	..
BASFORD.. ..	1	0	1	..	1	..	..	..	..	..
	92	89	3	28	60	3	..	1	3	3

\* Re-vaccinated 19 years ago.

The next table gives the number of Cases which have occurred each year since 1895, and the number of deaths:—

	SMALL POX.		
	Cases.	Deaths.	Case Fatality per cent.
1895	4	..	..
1896	1	..	..
1897	..	..	..
1898	..	..	..
1899	..	..	..
1900	..	..	..
1901	6	1	16·6
1902	2	0	..
1903	183	8	4·37
1904	101	3	2·97
1905	92	3	3·25

During the year 1905 Small Pox in this County was practically confined to the three Urban Districts of Mansfield, Worksop, and Hucknall Torkard, of which the latter was the only one which suffered severely. Of it Dr. Jones writes:—  
 “Tracing each notification in detail, it was evident that the  
 “infection had been carried to other parts of the town by some  
 “person or persons who were suffering from Small Pox, but  
 “had not been notified; subsequent events proved this to be  
 “the case. On 18th March a medical man was called in to a  
 “house to see a patient suffering from Bronchitis; he found  
 “four persons suffering from Small Pox, who had not been  
 “reported nor had a doctor. One was a young woman whose  
 “appearance indicated that she had had Small Pox previously.  
 “The woman admitted that she had recently been ill, but had  
 “remained at work at the cigar factory. She denied, however,  
 “that she had any suspicion that she was suffering from Small  
 “Pox. Another family in the same neighbourhood who had  
 “been in contact with this person was found with four cases,  
 “which were not notified. Legal proceedings were afterwards  
 “taken against the responsible persons, and a conviction was  
 “secured, and the maximum fine of 40s. was imposed.”

“There is every reason to believe that if the above case  
 “had been notified at the proper time, the epidemic might  
 “possibly have been prevented from spreading to such an  
 “extent.”



“The legal proceedings above referred to have impressed the public with the fact (that in the absence of a medical attendant) it is the duty of parents and others having the care of a person suffering from an Infectious disease to notify the Medical Officer of Health.”

### CHICKEN POX.

During the prevalence of Small Pox, Chicken Pox was again made notifiable in some districts. There was a considerable amount of Chicken Pox in 1905, and in many instances the distinction from Small Pox was difficult. At the time of writing (June, 1906) the County is free from Small Pox, but Chicken Pox continues to be unusually prevalent.

### SCARLET FEVER.

The following table shows the prevalence and fatality of this disease during the past eleven years:—

	SCARLET FEVER.		
	Cases.	Deaths.	Case Fatality per cent.
1895	540	26	4·8
1896	833	30	3·6
1897	824	29	3·5
1898	732	24	3·2
1899	1693	44	2·6
1900	1485	45	3·0
1901	1080	21	1·9
1902	829	13	1·5
1903	870	15	1·7
1904	984	20	2·03
1905	1559	33	2·1

There can be no question of the great diminution in the case fatality of Scarlet Fever during recent years, but it is quite a moot question how far this has been influenced by hospital isolation, and how far by numerous other conditions. If we may trust analogy, it is believed that in such a disease as Enteric Fever, the close study of the disease in hospitals and the improved methods of treatment there gradually developed, have done much to reduce the case fatality: and it is not

unlikely that a similar result has been taking place in Scarlet Fever. If not, it must be allowed that the improvement is taking place, in spite of hospital isolation, which is gradually increasing.

But, whatever the benefits, there can be little question that Scarlet Fever hospitals have special difficulties and dangers in the direction of "return cases," and relapses or second attacks. These questions have been very closely studied in many parts of the kingdom, and no complete and satisfactory solution has yet been found.

It can only be said that convalescents with mucous discharges from the nose or ear appear to be especially liable to convey infection if they return home while the discharge continues. It is generally admitted that it is desirable to classify cases as far as possible, and separate the severe and acute from the mild and the convalescent; but the accommodation provided in most of the smaller hospitals does not allow a sufficient number of separate wards for much classification to be carried out.

Just as ships and carriages carry lights at night, *not* to illumine the way for themselves, but to render their whereabouts evident to others, and so for the general benefit; so it should be remembered that patients are removed to a Scarlet Fever hospital mainly for the public benefit, in order to lessen the risk of spreading the disease, and only secondarily for any advantage to themselves in the way of better treatment. Consequently, the least they have a right to expect is that infectious hospitals should be made as reasonably comfortable and as free from special dangers as the knowledge of the day will allow. It cannot be said that this axiom has yet been generally accepted in practice, mainly, no doubt, on the ground of economy.

In spite of the precautions taken, Scarlet Fever is always present in some portion of the County, and a glance at the Monthly Summaries of Infectious Disease for 1905 will show that in no month were less than fifteen districts affected.

In a disease like Scarlet Fever there are always a number of very mild cases which are not seen by any doctor, and which are unrecognized and unnotified. Some are discovered when in the "peeling" stage, and some probably escape notice altogether. These readily spread the disease, and so keep up the supply of cases.

The public and the inexperienced always expect a positive diagnosis *at once* in such a common disease as Scarlet Fever; but it is well to remember that owing to the great variations in the human "soil," and probably also owing to equally great variations in the virulence or activity of the "seed," the milder cases of Scarlet Fever present great variety and are often difficult to recognize with certainty. About typical cases there is no difficulty, but in addition to the mild cases of Scarlet Fever which have escaped notice altogether, there is reason to think that some cases of Rôtheln are notified as Scarlet Fever. Until a reliable bacterial test is discovered this must remain unavoidable.

Dr. Littlewood (Skegby) writes:—"The character of the "disease was mild, as was evidenced by the very low case "mortality. The spread was caused chiefly by personal contact, and mild unrecognized cases found their way into the "schools."

### DIPHTHERIA AND MEMBRANOUS CROUP.

These two diseases, being usually caused by the same organism, are now generally classified together under the head of Diphtheria.

The rapid increase which took place in this County in 1904 has, fortunately, not continued; but, as a glance at the following table will show, the diminution is trifling, and no real improvement is yet manifest. Although the continued advance is checked, the high rate of 1904 is practically maintained.

	DIPHTHERIA and MEMBRANOUS CROUP.		
	Cases.	Deaths.	Case Fatality per cent.
1895	88	35	39·7
1896	142	38	26·7
1897	137	35	25·5
1898	119	26	21·8
1899	157	27	17·2
1900	182	32	17·5
1901	186	41	22·0
1902	209	29	13·4
1903	272	35	12·8
1904	447	63	14·1
1905	442	54	12·2

Dr. Tatham, Superintendent of Statistics in the General Register Office, states in the Registrar-General's 67th Annual Report:—"In the year 1904 the crude death-rate from Diphtheria and Croup was equal to 184 per million without distinction of age or sex, against an average rate of 294 in the preceding decennium. . . . Ever since the year 1899, when the rate was 324, Diphtheria mortality has continuously fallen, the rate in 1904 being only 57 per cent. of that in the year previously mentioned."

But Dr. Tatham points out that among several other *Registration Counties*—"In Nottinghamshire, Diphtheria mortality has risen continuously from a rate of 131 per million in the year 1899 to a rate of 235 per million in the year under present notice. Of 148 deaths from Diphtheria and Croup registered in that County in 1904, not fewer than 128 occurred in the contiguous registration districts of Basford and Nottingham. The rate in these districts averaged 315 per million, while that in the remainder of the County did not exceed 90 per million."

It needs to be clearly understood that Diphtheria spreads by personal infection from one case to another, and that the influence of "drains" is secondary.

There are a great many instances on record where outbreaks of Diphtheria have been traced to infected milk; but *"there is no evidence of the dissemination of Diphtheria by the water supply."*

The spread of Diphtheria is clearly favoured by the aggregation of young children in the elementary schools; bad ventilation and close personal contact of the children affording every facility for the propagation of the disease, through the instrumentality of undetected or convalescent cases.

There is probably no infectious disease in which properly arranged hospital isolation is more valuable, but yet extremely little hospital accommodation for Diphtheria exists in this County. Efficient hospital isolation is the direction in which relief from the continued spread of the disease is to be sought with most prospect of success.

Dr. Littlewood (Skegby) writes:—"Of the 10 cases of Diphtheria which were recorded in 1905, the first occurred at Blidworth Bottoms, in a girl 14 years of age, and was notified on January 28th. From this case alone, five others were directly infected, and two indirectly. The source of infection



“was clearly traceable to a sister, who had previously returned home from service in Hucknall Torkard, where the disease was very prevalent in the locality in which the girl had been living. I have little doubt that the girl herself had the disease in a form so mild as to escape recognition at the time she came home. Six other members of the same family were afterwards attacked.”

Dr. Wills (Southwell) writes :—“A troublesome outbreak of Diphtheria occurred during April and May at North Muskham. Several families were affected, and in the family attacked first the disease persisted, one member after another being attacked, although they seemed fairly careful people, and to do their best to isolate the sick ; still, one after another became ill.”

“The outbreak was attributed by the Medical attendant to the distribution of town night-soil on the neighbouring land.”

The free supply of Anti-toxin for poor cases, and the gratuitous bacterial examination of throat swabs from doubtful or convalescent cases, are essential means for combating an epidemic, if the most powerful resources of modern science are to be available.

One of the needs of the County is an arrangement by which doubtful disease products could be sent to a Laboratory for bacteriological examination at the public expense, as has been the practice for some time in many large towns and in a few counties.

The most needful examinations are those of “swabs” or rubbings of the throat in doubtful cases of Diphtheria, of the blood for the Widal reaction in Enteric Fever, and of the sputum for Tubercle Bacilli in the early stages of Consumption.

Disease is widely spread by mild and unrecognised cases, many of which it is difficult to diagnose by clinical methods alone, without the aid of bacteriological science as exemplified in a well-equipped laboratory. These methods are required much more for preventing the spread of disease than for the successful treatment of the individual patient. Hence, provision for the free examination of doubtful disease products becomes the duty of those public bodies whose function is the *prevention* of disease.

**Enteric Fever.**—There was a small increase in the number of cases in 1905, as shewn in the following table.

	ENTERIC FEVER, including "Continued."		
	Cases.	Deaths.	Case Fatality per cent.
1895	300	44	14·6
1896	395	58	14·9
1897	277	41	14·8
1898	431	63	14·6
1899	343	46	13·4
1900	388	51	13·1
1901	257	34	13·2
1902	160	22	13·7
1903	187	31	16·5
1904	187	31	16·5
1905	206	36	17·4

For the Registration County in 1904, we learn from Dr. Tatham's letter in the Registrar-General's Sixty-seventh Annual Report :—

"In the County of Nottingham Enteric Fever mortality in "the decennium ended 1903 had averaged 235 per million, "being a higher rate than that of any other county except "Durham. In 1899, the rate in Nottinghamshire rose to 338 "per million, after which it gradually fell to 126 in 1903 ; in "the year now under notice it again rose to 162. In several "previous reports, excessive Enteric Fever fatality had been "attributed to an area in the western portion of the County "formed by the registration districts of Worksop, Mansfield, "Basford, and Nottingham, which contain the majority of the "urban areas in the county. During 1904, Enteric Fever "mortality in these four districts averaged 182 per million, the "highest rate occurring in the registration district of Nottingham "where it reached 232 per million."

The chief points at which to aim in endeavouring to diminish the high death-rate from Enteric Fever in this County are the following :—

1. A pure water supply.
2. The water-carriage system for the removal of excreta.
3. The hospital isolation of affected cases.

In addition, means should be provided in all Urban Districts for the destruction by fire of the infectious discharges from all patients suffering from Enteric Fever. This is already done in a few districts.

The way in which flies may act as carriers of infection was forcibly stated by Dr. Howard Tooth, in an address to the Clinical Society of London, March 8th, 1901, on "The recent Epidemic of Typhoid Fever in South Africa, and agencies concerned in the dissemination of the disease."

Dr. Tooth stated :—"As may be expected, the conditions of these large camps were particularly favourable to the growth and multiplication of flies, which soon became terrible pests. I was told by a resident at Bloemfontein that these insects were by no means a serious plague in ordinary times, but that they came with the army. It would be more correct to say that the normal number of flies were increased owing to the large quantities of refuse, dead horses, etc., upon which they could feed and multiply. They naturally infest persons who are ill, but seem to be peculiarly attracted to enteric patients, hanging in loathsome groups around their mouths and feeding vessels. They were all over our food, and the roofs of our tents were at times black with them."

"It is a well-known fact that with the appearance of the frost, Enteric Fever rapidly disappears. The winter in South Africa is very mild compared with what we are accustomed to in England. It is true that the nights are cold, sometimes to many degrees of frost, but the days are warm and bright. It seems hardly credible that the almost sudden cessation of an epidemic can be due to the effect of cold upon the enteric bacilli only. But there can be no doubt in the mind of anybody who has been living on the open veldt, as we have for three or four months, that the flies are extremely sensitive to the change of temperature, and that the cold nights kill them off rapidly. On consideration of these points it is surely justifiable to assign an important share to flies in the spreading of infection."

The importance of flies as possible carriers of infection from night-soil to food, is raised in the following quotation from the Annual Report of Dr. Wills for Southwell.

Dr. Wills (Southwell), writes :—"You instructed your Inspector in May to complain to the Town Clerk of Nottingham of the offensive condition in which night-soil was sent to your country stations."

"This condition of things has occurred year after year, and some stronger measures will be required, if the nuisance

“ continues, in order to protect the health and interests of the country districts.”

“ A great deal of complaint has been made about the transit of night-soil from Nottingham; so offensive has it been at times, that the railway porters have been made ill by it during their work. It can easily be imagined how grave must be the danger of sending the discharges of both healthy and sick persons all over the country villages, especially in hot summer weather, when flies are carrying the filth on to our food and our bodies, after it is sent out of the town as dangerous to health. Some means should be taken of dealing with offensive matter, so as to remove the danger and smell, before it is distributed over the country places.”

In the Report of Dr. Spencer Low, to the Local Government Board upon the outbreak of Enteric Fever at Sutton Bonington, in September and October, 1905, the importation of night-soil into the district for agricultural purposes, is mentioned as a possible source of the contamination of surface water supplies.

Dr. Wills (Newark Urban) writes:—“ The disease has diminished very remarkably since the introduction of a pure supply of drinking water in 1893.”

“ It might have been expected that the use of the tub closet would have caused the disease to spread if it was introduced to a dirty locality, but up to the present time this has not been the case. The privy system, to which the spread of Typhoid Fever and other diseases is attributed in other towns is practically abolished in Newark.”

Dr. Mackenzie (Kirkby-in-Ashfield) writes:—“ Typhoid cases are carefully isolated, the excreta removed every morning in a special typhoid pail by a servant of the Council, and carried in a closed van to a furnace built for the purpose, where they undergo complete cinderization.”

Dr. Broadbent (Newark Rural) writes:—“ A case was reported from Balderton in March and the patient died. The only possible source of infection seemed to be that, whilst gardening, he might have dug up the germs, as there had been another case in the house a year before, and the stools had been buried in the garden, there being no other means of disposal available.”

Dr. Littlewood (Skegby) writes:—“ The three cases notified occurred in one house, on Dalestorth Terrace, and two of the cases were, of course, caused by personal contact.”



“The disease was originally brought from Hucknall  
“Huthwaite by Mrs. —, who had been nursing a case of  
“fever at that place.”

**Puerperal Fever.**—This term is still retained for the sake of convenience, and is intended to include pyæmia, septicæmia, sapræmia, and peritonitis, occurring during the puerperium. The following table gives the number of *notified* cases, and deaths during the last 11 years:—

	PUERPERAL FEVER.		
	Cases.	Deaths.	Case Fatality per cent.
1895	24	11	45·8
1896	18	2	11·1
1897	21	9	42·8
1898	12	5	41·6
1899	28	14	50·0
1900	21	18	85·7
1901	23	18	78·2
1902	20	9	45·0
1903	16	9	56·2
1904	17	14	82·3
1905	20	6	30·0

These do not include the deaths from “diseases and accidents of parturition,” which in 1905 numbered 28.

During the year, 26 cases of Puerperal Fever were brought to the notice of the Local Supervising Authority under the Midwives Act, and special Reports upon them were received from the Medical Officer of Health of the District in 25 instances. Thirteen cases occurred in the practice of certified Midwives, and the circumstances were further investigated by the County Medical Officer and the Inspector of Midwives. In two instances it was found necessary to suspend the Midwives from practice for a period, under Section 8 (3) of the Midwives Act, to prevent the spread of infection; but in the remaining cases it was found sufficient to advise the Midwives to cease practice for periods ranging from ten days to three weeks, according to circumstances, and steps were taken to see that suitable methods of disinfection were carried out. That these proved efficient, is shown by the fact that in no instance was the infection carried to a second case in the practice of the

same Midwife after the process of disinfection had been completed. In two instances the infection had been carried to a second case by a Midwife before the first case had been brought to the knowledge of the Local Supervising Authority, and before any attempt at disinfection had taken place. The disease did not spread any further.

Four of the remaining cases were attended by uncertified Midwives, whose methods of practice are not under the control of the Local Supervising Authority.

The number of cases in the Table is derived from the Annual Reports for the 26 Districts, and represents the number of cases of Puerperal Fever notified to the District Medical Officer of Health, under the Infectious Disease Notification Acts. It does not correspond with the figures previously given, because several of the 26 cases that came to the knowledge of the Local Supervising Authority had not been officially notified, and two of the Reports received in the beginning of January referred to women who died in the end of December, 1904, and whose deaths were included in the statistics for 1904.

There is still much misunderstanding and inexactitude concerning the notification of Puerperal Fever, which is the term employed in the Infectious Disease (Notification) Acts.

In the "Nomenclature of Diseases" issued by the Royal College of Physicians, it is recommended that—"The term "Puerperal Fever" should no longer be used. Pyæmia, "Septicæmia, or Sapræmia, occurring in puerperal women "should be described as 'Puerperal Pyæmia,' 'Septicæmia,' "or 'Sapræmia' respectively. The other conditions included "under the term 'Puerperal Fever' should be returned under "'Affections consequent on Parturition,' the word 'Puerperal' "being in all cases prefixed to the word denoting the local "process."

This has led to the belief that as the different diseases above mentioned are not individually specified in the Infectious Disease (Notification) Act, 1889, there is no legal obligation to notify them. Difficulties have in consequence arisen in certain sanitary districts in London and elsewhere, and in August, 1898, the London County Council sought the advice of the Royal College of Physicians on the matter. The question submitted by the County Council was "whether the diseases "Peritonitis and Metritis, Puerperal Septicæmia, and Puerperal "Sapræmia, all of which the Registrar-General includes under "'Puerperal Fever,' are covered by that term for the purposes "of notification?"

To consider this question the College appointed a committee consisting of Dr. Payne, Sir John Williams, Bart., Drs. Cullingworth, Champneys, and Tatham, and in November, 1898, they reported that they had unanimously resolved as follows :—

“That this Committee is of opinion that with a view to “the limitation of dangerous infectious diseases, the London “County Council would be acting rightly in adopting the view “that the expression ‘Puerperal Fever,’ as contained in the “Infectious Disease (Notification) Act, should be taken to “include Septicæmia, Pyæmia, Septic Peritonitis, Septic “Metritis, and other Acute Septic Inflammations in the Pelvis “occurring as the direct result of childbirth.”

To a similar question submitted to the Obstetrical Society of London by the Society of Medical Officers of Health, the following answer was given :—

“The Council of the Obstetrical Society is of opinion that “most of the diseases mentioned are intended to be included “under the name of ‘Puerperal Fever’ in the Infectious “Disease (Notification) Act, 1889. It is also of opinion that “an inclusive definition should be added after the words “‘Puerperal Fever’ in the following form :—‘That is, “‘Septicæmia and Pyæmia, including Peritonitis, and all cases “of acute pelvic inflammation in connection with childbirth.”

Dr. Mackenzie (Kirkby-in-Ashfield) writes :—“Two cases “were notified, one in the South Ward and one in the West “Ward. No deaths. The increased supervision now exercised “by the County Council over Certified Midwives, and the “educational value of the Nurse Superintendent’s visits to “these Practitioners, is calculated in the future to render the “lot of the parturient woman much safer.”

Dr. Houfton (Mansfield Woodhouse) writes :—“The “benefit of the Midwives’ Act was at once apparent when the “first case of Puerperal Fever was notified. A special report “was sent to the County Council, on the case; an Inspector “was sent over to examine the midwife in whose practice it “occurred, and efficient precautions were taken.”

Dr. Broadbent (Newark Rural) writes :—“A patient “admitted into the Newark Infirmary from Balderton developed “Puerperal Fever and died. The County Council was notified, “and the usual precautions were taken.”

Dr. Littlewood (Skegby) writes :—“Now that we have “arrived at the actual cause of Puerperal Fever, it is to be “hoped that the day is not far distant when deaths due to this “preventible disease will be few and far between. It may be

“some little time before we begin to see any good results from  
 “the administration of the recent Midwives’ Act, but ultimately  
 “it is sure to have a beneficial effect.”

### NON-NOTIFIABLE INFECTIOUS DISEASES.

**Measles.**—A great epidemic of Measles took place in 1905, as the following table plainly indicates :—

Year.	Deaths from Measles.	Year.	Deaths from Measles.
1895	35	1901	105
1896	230	1902	77
1897	47	1903	42
1898	62	1904	50
1899	142	1905	177
1900	67		

Its effect as a hindrance to Education is shewn upon page 20, by the large number of schools closed for various periods on account of the presence of Measles. As the spread of Measles takes place in such large proportion through the schools, the subject is further discussed under School Hygiene and School Closure.

**Whooping Cough.**—There was a moderate epidemic of this disease, as the following table shews :—

Year.	Deaths from Whooping Cough.	Year.	Deaths from Whooping Cough.
1895	61	1901	71
1896	51	1902	71
1897	129	1903	88
1898	40	1904	107
1899	37	1905	86
1900	109		

Dr. Wills (Mansfield), writes :—“I was surprised on  
 “calling at some of the houses where Whooping Cough deaths  
 “had occurred, that children in certain cases were attending  
 “the Schools, and the parents said they were not aware that  
 “the disease was infectious.”



**Influenza.**—occurred in a sporadic form during the whole year, but never became seriously epidemic. It shows no sign of disappearing, although the type is not so fatal as in the epidemics of the early nineties. Influenza is responsible for many fatal cases of Pncumonia; and, in addition, in 1905 was credited with 47 deaths.

Year.	Fatal Cases of Influenza.
1900	152
1901	23
1902	47
1903	45
1904	44
1905	47

**Diarrhœa.**—This disease is mainly of importance in connection with infant life, and in hot, dry seasons assumes the characteristics of a specific epidemic disease. The statistical uncertainties consequent upon a want of uniformity in nomenclature have been already mentioned under the heading of Zymotic death-rate. In 1905, there were 116 deaths certified from Diarrhœa, and 79 from Enteritis. Of this total of 195 deaths, 128 occurred in infants under one year of age, and 34 in children between one and five; or, stated differently, 162 deaths occurred in children under five years of age, and only 33 in persons over five. The remedy most likely to prove effective is the personal instruction of the mothers by lady Health Visitors in the details of cleanliness and the proper feeding of infants.

Year.	Deaths from Diarrhœa.	Year.	Deaths from Diarrhœa.
1895	201	1901	205
1896	88	1902	85
1897	166	1903	123
1898	240	1904	242
1899	233	1905	116
1900	158		

**Tuberculosis.**—The following table shews the number of *deaths* from Phthisis or Consumption (that is, tuberculosis of the lungs), and also from “Other Tuberculous Diseases,” that is, tuberculosis of any other organ except the lungs. We have no record of the *cases*, as tuberculosis is not yet a notifiable disease. It is frequently estimated that for each death there are six other cases of Pulmonary Consumption which have not yet terminated. That method of calculation would give 1,686 persons suffering from Consumption in the county, besides those suffering from “other tuberculous diseases.”

Year.	Deaths from Phthisis.	Deaths from other Tuberculous Diseases.
1895	287	..
1896	233	..
1897	308	..
1898	303	..
1899	266	..
1900	256	184
1901	238	153
1902	229	173
1903	262	150
1904	256	167
1905	281	140

The proportion of deaths per 1,000 of the population is given in the following tables.

## 1903.

	Phthisis.	Other Tuberculous Diseases.	Both together or <i>all</i> Tuberculous Diseases.
Whole County .. ..	·88	·50	1·39
Urban Districts .. ..	·80	·53	1·34
Rural Districts .. ..	1·01	·46	1·48

## 1904.

Whole County .. ..	·84	·55	1·39
Urban Districts .. ..	·79	·59	1·38
Rural Districts .. ..	·92	·48	1·40

## 1905.

Whole County .. ..	·90	·45	1·35
Urban Districts .. ..	·93	·48	1·41
Rural Districts .. ..	·86	·40	1·27

A comparison of the three years shews a progressive improvement in the Rural Districts, and in the last two columns for the whole County. The rate for the Urban Districts is not so good as in the two previous years, except for "other tuberculous diseases." In each column the Rural Districts in 1905 shew a smaller rate than the Urban, as should be the case.

The following table gives the average death rates of the different districts from Phthisis (lung tuberculosis) for the ten years 1895—1904. The second table gives the average death rates from "other tuberculous diseases" for the five years 1900—1904. There is no real advantage in separating Phthisis; but, unfortunately, the statistics in the possession of the County Council relating to "other tuberculous diseases" do not go further back than the year 1900.

AVERAGE DEATH-RATE FROM PHTHISIS FOR THE TEN YEARS,  
1895—1904.

URBAN DISTRICTS.	Per 1000	RURAL DISTRICTS.	Per 1000
Sutton-in-Ashfield ..	.. 1·69	Bingham .. ..	.. 1·14
Newark .. ..	.. 1·32	Newark .. ..	.. 1·04
Beeston .. ..	.. 1·20	Stapleford .. ..	.. 1·02
Mansfield .. ..	.. 1·08	Southwell .. ..	.. 1·00
Mansfield Woodhouse	.. 1·00	Basford .. ..	.. 0·90
Arnold .. ..	.. 0·96	Misterton .. ..	.. 0·88
East Retford .. ..	.. 0·90	Skegby .. ..	.. 0·75
Eastwood .. ..	.. 0·85	Kingston and Ratcliffe	.. 0·72
Worksop .. ..	.. 0·84	Blyth and Cuckney ..	.. 0·69
Hucknall Torkard ..	.. 0·83	Leake .. ..	.. 0·67
Hucknall Huthwaite	.. 0·81	East Retford Rural	.. 0·66
Carlton .. ..	.. 0·77	Average .. ..	.. 0·91
Kirkby-in-Ashfield ..	.. 0·74		
West Bridgford ..	.. 0·73		
Warsop .. ..	.. 0·49		
Average .. ..	.. 1·02		

AVERAGE DEATH-RATE FROM OTHER TUBERCULOUS DISEASES,  
FOR THE FIVE YEARS, 1900—1904.

URBAN DISTRICTS.	Per 1000	RURAL DISTRICTS.	Per 1000
Sutton in Ashfield ..	.. 1·75	Stapleford .. ..	.. 0·83
Warsop .. ..	.. 1·23	Blyth and Cuckney ..	.. 0·60
Kirkby-in-Ashfield ..	.. 0·79	Basford .. ..	.. 0·54
Eastwood .. ..	.. 0·76	East Retford .. ..	.. 0·49
Mansfield Woodhouse	.. 0·76	Skegby .. ..	.. 0·47
Newark .. ..	.. 0·60	Newark .. ..	.. 0·38
Hucknall Torkard ..	.. 0·57	Bingham .. ..	.. 0·34
Carlton .. ..	.. 0·49	Leake .. ..	.. 0·32
Hucknall Huthwaite	.. 0·47	Southwell .. ..	.. 0·32
Mansfield .. ..	.. 0·45	Misterton .. ..	.. 0·11
East Retford .. ..	.. 0·44	Kingston and Ratcliffe	.. 0·00
Worksop .. ..	.. 0·44	Average .. ..	.. 0·26
Beeston .. ..	.. 0·41		
Arnold .. ..	.. 0·33		
West Bridgford ..	.. 0·25		
Average .. ..	.. 0·35		

There has been no lessening of interest in the fight against Consumption, and in the early part of the present year the National Association for the Prevention of Consumption issued a memorial to the Public Authorities, from which the following is an extract :—

“The great principle, however, for which the National Association for the Prevention of Consumption contends is that the protection against Tuberculosis is as much a duty of Sanitary Authorities as protection against Typhoid Fever ; and that the destruction of expectoration containing tubercle bacilli and the supervision of advanced cases of Phthisis form as important a demand of sanitary science as the disinfection of enteric stools and urine ; and that in the interests of the poor, the contamination of the air of their dwellings by infective tubercle bacilli ought to be as effectually prevented as the poisoning of their drinking water by the bacilli of cholera or enteric fever.”

This duty has already been recognised in Scotland, where the Local Government Board have issued a circular on the “Administrative Control of Pulmonary Phthisis,” with a view to assisting the local Authorities of Scotland in developing and completing their administrative machinery. Its principal provisions may be summarized as follows :—

Pulmonary Phthisis is an infectious disease within the meaning of the Public Health (Scotland) Act, 1897, and the obligation resting on the local Authority to deal with and control infectious disease extends to Pulmonary Phthisis.

Penalties are imposed for letting houses in which infected persons have been lodging, or for ceasing to occupy houses without disinfection.

“When persons suffering from Phthisis are treated in their own homes, the local Authority should see that disinfection is carried out at frequent intervals. Not only the homes, but also the workshops and either places where consumptives have been employed, should be carefully and thoroughly disinfected by officers skilled in the work. It has been clearly shown that new cases of Pulmonary Phthisis have originated from rooms previously occupied by phthisical patients. This is now held to be one of the commonest sources of infection.”

“The provisions of the Public Health Act as to removal of cases of infectious disease to hospital, and as to the provision of hospitals and houses of reception, are available for dealing with cases of Pulmonary Phthisis as with cases of



“other infectious diseases. These provisions are comprehensive and elastic. Hospitals for Pulmonary Phthisis may be classified as :—

- (a) Curative hospitals (sanatoriums) for early cases.
- (b) All-day hospitals.
- (c) All-night hospitals.
- (d) Convalescent colonies and homes ; work colonies.
- (e) Hospital wards for educative treatment and control.
- (f) Hospital wards for isolation of advanced cases.
- (g) Dispensaries for Pulmonary Phthisis.

Various important details are given under these headings.”

“For the effective application of the Public Health Act to Pulmonary Phthisis, a system of notification is essential.”

In connection with the sanatorium treatment of Consumption, Dr. C. Theodore Williams, Consulting Physician to the Hospital for Consumption, Brompton, states in the *Lancet*, January 6th, 1906 :—

“The question has been asked if experience has demonstrated the therapeutic value of sanatorium treatment generally, and the answer of most of us is in the affirmative. No sensible physician ever expected that a few months’ stay in a sanatorium would work such changes in the system of a consumptive as not only to arrest his disease, but also to render him immune against all future attacks of the tubercle bacillus when he returned to the conditions under which the disease was engendered.”

“For the treatment of Consumption three institutions are required: (1) A consumption hospital to deal with all acute and advanced cases; (2) A sanatorium for patients with incipient and limited lesions, for the most part able to take exercise; and (3) A settlement or colony of patients with arrested consumption where these can be employed on work adapted to their strength and capabilities.”

“We must, however, remember that after all the great aim of statesmen, philanthropists, public authorities, and medical men ought to be the *prevention* of tuberculosis rather than its *cure*, and this can only be attained by the removal of all the conditions which deteriorate the constitutional powers, and predispose the individual to the bacillar attack.”

“When we have abolished the evils of overcrowding, of ‘excessive hours of work in an unwholesome atmosphere, and of insufficient food, and have secured the wholesome homes and workshops for the poor, contemplated by Acts of Parliament and by County Council regulations, when we have checked drunkenness and vice, and have made sure that our population are properly fed and clothed, we shall be approaching the looked-for result—the prevention of tuberculosis.”

### MILK SUPPLY.

During the past year the Worksop Urban District Council have made Regulations under Article 13 of the Dairies, Cowsheds, and Milkshops Orders; and West Bridgford Council decided to carry out the orders as regards registration of Cowkeepers, Dairymen, and Purveyors of Milk, but they have not made any regulations.

As regards the conveyance of tubercle by milk, dealt with in the Order of 1899, very little is being done, as the country is still awaiting the final report of the Royal Commission appointed to inquire into the relations of Human and Animal Tuberculosis.

The International Congress on Tuberculosis, which met at Paris, in October, 1905, passed the following resolution:—“The Congress, after hearing the exposé of the most recent investigations, declares that it is not only indispensable to avoid contagion from man to man, but also to pursue the prophylaxis of bovine tuberculosis and to continue to take administrative and hygienic measures to avert its possible transmission to our species; and finally, that it is desirable to be on our guard against all forms of animal tuberculosis.”

*The Lancet*, April 28th, 1906, in an article upon “Tuberculous and Unclean Milk,” quotes largely from a paper recently read before the Farmers’ Club, by Mr. F. J. Lloyd, F.C.S., F.I.C., upon the Relation of the Medical Profession to the Dairy Industry.

“We agree, however, with Mr. Lloyd, that milk to have its maximum value as an article of food must be drunk in a fresh and wholesome condition, and that consequently the dairy farmer who produces it, and all those who have to deal with it, should leave no stone unturned which will ensure both its purity and its cleanliness. We are also cordially with Mr. Lloyd, in his warning to the dairy farmers, that if they wish to prevent extreme legislation, they themselves must take the steps to render such legislation unnecessary. From these considerations the writer of the paper goes on to advise the elementary, but little observed, points of cleanliness of the cowsheds, of the cows’ udders, and of the milkers’ hands, the

rejection of the fore-milk, and immediate straining and cooling of the milk in thoroughly clean circumstances and under conditions where aerial contamination from dust is unlikely. To these data he would doubtless add by inference facilities for the speedy and immediate transit of the milk under conditions which, so far as practicable, will maintain the temperature to which it has been cooled, and which will protect it from the dust and dirt associated with a railway journey. As Mr. Lloyd observes: 'Even the dairy farmer must realise that the public have a right to demand milk free from disease germs, and coming from healthy cows,' and he adds that 'if the dairy farmer will not take such steps as lie in his power to ensure healthy and clean milk, he must not blame the medical profession, if, in their anxiety to protect the public health, they go further than he considers justifiable.'

"Although Mr. Lloyd believes that the medical profession has already gone further than our present knowledge justifies, he is good enough to add that in this country the profession has shown far more moderation than our colleagues in other countries, and he trusts that while this moderation continues 'the dairy farmer will realise the great responsibility which rests upon him to free his herds from disease and their milk from dirt.' We echo these sentiments and we agree with him that it would be well for the dairyman to reckon with us while we are, so to speak, in the gate. We are satisfied with the evidence available that this elementary cleanliness which is so forcibly urged by Mr. Lloyd is not, as a general rule, practiced, more especially in our rural districts, where a proposal to wash the udders of the cows and the hands of the milkers prior to the act of milking, would often be greeted with derision, and where the hind-quarters of the cows are not infrequently caked with filth. The cowsheds are often dark and dirty, the water supplies far from satisfactory, and the milk utensils unclean."

"But it must not be forgotten that the milk as exposed for sale in milkshops and other places is generally kept under conditions which invite its contamination by dust, and that much more attention should be devoted to this aspect of the question, which is, of course, largely beyond the reach of the dairy farmer."

The following extracts from the Annual Report will shew how much is being done in certain districts to prevent the contamination of milk, and with how little friction. Unfortunately, in other districts very little is being done.

Dr. Wills (Mansfield) writes:—"New regulations were "passed for the control of the Milk Supply from cows which "are kept within the Borough."

"The regulations came into force March 1st, 1905."

"I looked over a number of the chief dairies within the "Borough with your Inspector of Dairies. The principal "defects we found were deficient light and bad drainage at "three sheds. Overcrowding of cows in too small a space. "The accumulation of large quantities of manure in close "proximity to the sheds where the cows were kept."

"The Inspector informed me that improvements in drain- "age and water supply have been carried out in three instances."

Dr. Wills (Newark Urban) writes :—"I looked over the  
"cow-houses in Newark with your Veterinary Inspector and  
"Dairy Inspector, and found them in a fairly good condition ;  
"two which had been condemned as unfit for keeping cows in  
"were closed."

"Improvements were found made in two of the largest  
"houses by increasing the amount of ventilation."

"A cow was found with a suspicious quarter, and it was  
"proposed to use the Tuberculin test, but this was declined,  
"and the cow was sold."

"At one, the eubie space was found wanting, and it was  
"requested that this should be increased."

Dr. Harvey Francis (Arnold) writes :—"The Cowsheds  
"have been inspected by the Sanitary Inspector and myself  
"during the year. As I have said in previous Reports, many  
"of them are primitive, and require re-building altogether ; in  
"most of them either the light, drainage, or ventilation is  
"deficient ; there is still, in some cases, the objectionable and  
"dangerous practice of storing manure near the cow-houses."

Dr. Jones (Hucknall Torkard) writes :—"Each cowshed  
"was regularly inspected, more especially in the winter months  
"when the cows are kept up."

"The notices served numbered 43, of which two were for  
"insufficient ventilation, one for cows in a dirty condition, and  
"forty for whitewashing and cleansing."

"The frequent removal of manure from the sheds is very  
"necessary, as it is important that the cattle should be kept in  
"as clean a state as possible, so as to prevent the milk from  
"becoming contaminated."

"I am pleased to state that great improvements have taken  
"place in this matter, and milk beasts have been removed from  
"sheds which were not properly constructed."

Dr. Mackenzie (Kirkby-in-Ashfield) writes :—"At mid-  
"summer Regulations were drawn up, and have now been for  
"some time in the hands of the Local Government Board  
"waiting their sanction."

"Any steps calculated to improve the milk supply of this  
"district is of enormous importance to the community. As  
"often remarked in these Reports, I believe our disorganised  
"milk supply to be a great menace to the public health."



Dr. Houfton (Mansfield Woodhouse) writes :—"All Dairies, Cow-sheds, and Milkshops in your district are now registered, and under the direct supervision of the Sanitary Inspector and Medical Officer of Health. On making our visits, we have found various insanitary conditions, which, on our suggestions, for the most part have been speedily remedied."

"Dr. Nesbitt (Sutton-in-Ashfield) writes :—"The Cow-sheds and Dairies have been regularly visited during the year by your Medical Officer and Sanitary Inspector. Four notices have been served during that period requesting limewashing, which have been complied with. Several Cow-sheds are deficient in light and ventilation, and require radical alteration. You should at once adopt the Model Regulations, drawn up by the Local Government Board, which deal with "the lighting, ventilation, cleansing, drainage of Cow-sheds and Dairies, &c."

Dr. Garrett (Worksop) writes :—"In some of the town sheds where the cows are housed continually in the winter, the sheds are kept too close, and the animals become much over-heated."

"As a rule, they are kept fairly clean ; but greater care and cleanliness ought to be exercised during milking, to prevent contamination of the milk."

"Dirty and dusty straw is sometimes used for bedding, and the result of this was seen in a layer of dust on the surface of the milk in the pails."

"At a meeting in December, 1905, the Council decided to adopt Regulations under the Dairies, Cow-sheds, and Milkshops Orders."

"These are in the form of the Model Regulations of the Local Government Board, and come into force on April 1st, 1906."

Dr. Rothera (Beeston) writes :—"In Beeston, supervision is exercised over the Cow-sheds, but I regret to say that the retailers are not registered, and up to the present no very active oversight has been kept upon them."

Dr. Wills (Mansfield) writes :—"A model dairy was exhibited near London last July, from which a hospital for children was supplied with milk with excellent results. We saw means provided for collecting the milk from the washed udders of cows without contamination, by men who washed

“their hands before milking, and used white smocks when milking into sterilized receptacles, which milk, we were assured, would keep for a considerable time without change.”

“The risks I have found of pollution of milk are so great by infected clothing and persons, by disease of the udder and teats, by filthy udders, by disease of the animals, that I think milk for children should be boiled before it is used, with the purpose of protecting them from those risks.”

## WATER SUPPLY.

The following extracts from the Annual Reports of the Medical Officers of Health give a fair representation of the needs of some districts, and of the progress made in others. It is too late in the day to doubt the benefits to health which follow the provision of a permanent and abundant supply of pure water. Unfortunately, the necessary expenditure of money is usually large, and presses with undue severity upon the small rural districts where the want of water is often greatest. But the provision of a proper supply of pure water is a permanent improvement, which increases the value of property, as well as benefiting health. The only way in which many of the villages can obtain a permanent supply is by combination, and for some of them the matter is already urgent. Each year there is a further drain upon the underground water supplies of the County, for the use of the large centres of population, and the time may soon arrive when the country districts not yet supplied may find themselves too late.

Dr. Wills (Mansfield) writes :—“New works for the supply of water have been sanctioned between Mansfield and Clipstone, so that in the event of any mishap or falling off in supply from the old works, a new supply may be available for use.”

Dr. Wills (Blyth and Cuckney) writes :—“It was decided that the principal well waters at Blyth should be sent for analysis, and the waters of the principal wells were forwarded to two Analysts of repute.”

“All the waters were pronounced by them unfit for drinking purposes.”

“A Water Committee was formed to discuss the means by which the village should be provided with good water for drinking and cleaning purposes, but no decision has yet been arrived at as to the steps to be taken to provide a supply.”

“The scheme for supplying Blyth and Carlton from one source was considered too expensive for so small a population, although it appears desirable for both villages.”

Dr. Corcoran (Leake) writes :—“The water supply of the district is derived exclusively from wells, and as the quality of well water is constantly liable to change, on account of contamination by soakage of liquid filth from the surface of the adjacent ground, movement of sub-soil water, etc., the matter has received constant attention during the year. Thirty-three samples of drinking water were submitted to me for analysis by your Inspector of Nuisances ; in eight cases the water was so impure as to justify me in condemning it as unfit for drinking. In each of these cases steps were taken to provide a suitable supply of drinking water.”

Dr. Potterton Ferguson (Misterton) writes :—“The main supplies being the River Trent and Chesterfield Canal, as well as shallow wells ; the former two sources are undesirable from the refuse which is constantly thrown into them, the latter being excessively hard, owing to the presence of gypsum in solution.”

“It is high time that an efficient water supply be provided, and so minimize the cause of Enteric Fever.”

Dr. Broadbent (Newark Rural) writes :—“Your Inspector has collected, and I have analysed 13 samples of water, of which nine have been condemned.”

Dr. Littlewood (Skegby) writes :—“The Heywood Oaks Farm-house and three cottages have been supplied with water from the Nottingham Corporation mains. This much-needed supply, after some years of fruitless controversy, has at last been provided.”

“An entirely new water main of about 600 yards in length has been extended from the new schools at Teversal to three cottages situate on the Pleasley Road.”

Dr. Wills (Southwell) writes :—“The new water supply provided for Edwinstowe by Earl Manvers is highly appreciated.”

## **DRAINAGE, SANITARY WORK, AND SCAVENGING.**

It is still necessary to commence this subject by again quoting the words spoken by the late Sir Richard Thorne Thorne, when Chief Medical Officer to the Local Government Board.

*“The fact that with our present knowledge, such a structure as the common midden-privy should not only exist in our midst, but be clung to with a perverted tenacity, is, in my opinion, the greatest blot which attaches to English sanitary administration at the close of the nineteenth century. Apart from its sanitary aspect, it is a system as degrading and ignoble as it is foul; and I trust the day is not far distant when we shall look back to it as a barbarism of the past.”*

Improvements are gradually taking place, mainly as the result of the persevering recommendations of the Medical Officers of Health of the various districts. The substitution of pail-closets for privy-middens is not a completely satisfactory change unless accompanied by *an efficient system of Public Scavenging.*

From the Reports it is abundantly evident that Public Scavenging is required in villages as well as in Urban Districts. Indeed the Reports show that Public Scavenging is in operation in some villages, greatly to the benefit of the health of the community.

Another recommendation which is annually made in this Report consists in, *The paving of yards and spaces around houses.*

These are elementary principles of sanitation which were urged by the late Sir John Simon when Medical Officer to the Privy Council, more than fifty years ago; but they still need to be constantly repeated, as will be understood by reading the accompanying extract from Dr. Mackenzie's Annual Report for Kirkby in Ashfield:—“Their backyards are always damp by continual irrigation with kitchen slops, notwithstanding the near proximity of properly grated gullies for the reception of kitchen waste; not only so, but the curtilage to the rear of their houses, let it be a court or uncultivated piece of land, is taken up with fowl pens, rabbit hutches, pigeon cotes, vegetable and tea leaves, fish bones, and mussel shells freely scattered about. To keep this class of houses and their occupants in good sanitary condition, would need a Sanitary Inspector posted to each house all the year round.”

Dr. Wills (Mansfield) writes:—“The Destructor has been doing most useful work by preventing accumulations of refuse in and near the Borough, which were very much complained of, and by using the refuse to provide light for the town, and motor power for the tram cars.”



The Borough Surveyor (Mansfield) writes:—"The temporary tanks for arresting the sludge from the Intercepting Sewer before entering the Flood Dykes have been completed and put into operation."

"The question of constructing permanent works is having the consideration of the Council, and negotiations for acquiring land from the Duke of Portland are now taking place."

"The system now in force for the collection and removal of nightsoil and dry ashes is working satisfactorily, and 7360 tons of this refuse were dealt with at the Destructor during the year, instead of being taken to tips as previously, thus no doubt preventing the spread of disease."

Dr. Knight (Carlton) writes:—"The sewerage of the Thorneywood Estate has been completed, the old cesspools have been abolished, and the houses connected with the new sewer. According to the Surveyor's Report, the Porchester and Carnarvon Estates will, in a few months' time, be in the same favourable condition. Cesspools are undoubtedly an abomination, and the fewer of these sometimes necessary evils the better for the inhabitants concerned."

Dr. Forbes (Eastwood) writes:—"I trust the Council will continue to insist on water closets for all new property, as I consider the old-fashioned open closets very detrimental to health."

Dr. Jones (Hucknall Torkard) writes:—"The serious defect in the High Street sewer has not yet been remedied, but with the extension of the Sewage Disposal Works, I trust this matter will be dealt with without further delay."

Dr. Mackenzie (Kirkby-in-Ashfield) writes:—"Throughout the whole district the old vaulted midden privies have been to a great extent replaced by pail-closets and dry ash-pits, so too, are pail-closets now gradually giving way to water-closets."

Dr. Houfton (Mansfield Woodhouse) writes:—"During the past year the scheme mentioned in last year's Report has been completed, and is now working."

"The sewage is received at the outfall in two open receiving or septic tanks, and is pumped from thence by producer gas engines and three-throw ram pumps, up to a receiving tank on land adjoining Pea-field Lane, and from this tank will be distributed over 45 acres of ground, the freehold of which has been purchased from the Duke of Portland."

“An open collecting ditch and carrier will be constructed along the Duke of Portland’s flood dyke embankment to collect up the effluent, which, under the covenant of purchase, is to be discharged into the flood dyke at one particular point.”

“The sewerage at Forest Town requires dealing with without delay. About 90 houses are erected and occupied, but others are in course of erection. At present the sewage is collected into two tanks, and an effort, often unsuccessful, and at great expense, is made to keep these tanks from running over and polluting all the neighbouring soil. These tanks are situate within 50 yards of the houses, and the smell from them is very offensive, and I have no hesitation in saying that in their present condition they are a danger to the health of Forest Town.”

“I am glad to state that all the new houses which have been erected are either provided with water closets or tubs, the contents of which are removed weekly, and, in addition, a number of the old middens have been done away with, and water closets or tubs substituted. There are, however, unfortunately, still a large number of middens.”

Dr. Nesbitt (Sutton-in-Ashfield) writes :—“During the year the Sewerage and Sewage Disposal Works begun in 1904, were completed, and a final inspection of the new works took place on December 14th, 1905.”

“About four miles of sewers and storm water drains have been laid in the town, being a part of the proposed re-organisation of the sewerage system.”

“The new Sewage Disposal Works are on the bacterial system.”

“The tank effluent passes over a long aerating channel into eight continuous flow percolating beds. The effluent from these beds commands the whole of the land laid out for irrigation, and may be run on to any part of the land desired. The purified effluent is finally collected in open drain pipes, and conveyed to the stream. The land used for irrigation purposes is about 20 acres in area, and will be utilised for market gardening and farm produce. The sewage from a population of about 16,500 will be dealt with at the outfall works, the new works being laid out for 10,000, and the existing works dealing with the remainder. The total cost of the scheme just completed is between £22,000 and £23,000.”

“The scavenging has been done by contract during 1905, at a cost of £1,155.”

“The pail system is now almost universally in operation throughout the district. It is a great improvement on the old midden system, but far inferior to that of water carriage, the adoption of which I once more urge upon you most strongly to adopt for all new houses. It will diminish disease (more especially Typhoid Fever), and be more economical in the end.”

Dr. Wills (Blyth and Cuckney) writes :—“The villages of Blyth and Cuckney have been much improved since scavenging has been in operation, as it has prevented the accumulation of filth near the homes of the poor, who were unable to arrange for the cleansing of their premises.”

“Scavenging is a process, like water supply, which is always appreciated when it has been tried, not only because it provides for comfort and health, but because, like the supply of water, it pays directly and indirectly not only its own expenses, but I have no doubt, if cause and effect could be clearly traced, it would be found very profitable by the prevention of illness where it is used.”

Dr. Corcoran (Leake) writes :—“House refuse collection and disposal is accomplished in the old-fashioned manner by the common midden and privy arrangement, and it has answered fairly satisfactorily. Cases of over-full or leaky middens occasionally occur, but they are soon detected by the Inspector, who takes steps to have the nuisance abated, and a recurrence prevented.”

“Throughout the whole District liquid house refuse and slopwater, other than that which is collected in the middens above mentioned, runs off by the natural channels of drainage, which in most instances are long tortuous dykes leading to the nearest river or brook. Most of the suspended matter is deposited from the sewage water in these dykes, which are periodically cleansed by order of the Council, so that there is very little pollution of rivers from any of the villages constituting the District.”

Dr. Rothera (Beeston) writes :—“All the liquid sewage is pumped to the Sewage Farm, consisting of 30 acres, situated on light land, to the south-east of the town.”

“After percolating through the soil the resulting effluent is clear, free from smell, and runs into the river Trent.”

“The average daily flow of liquid sewage to the farm is 324,000 gallons.”

“Before completing my Report, I would again wish your Sanitary Committee to entertain the idea of installing a Refuse Destructor to get rid of in the only rational and sanitary method the vast accumulation of combustible material that we have an increasing difficulty in disposing of.”

### SMOKE PREVENTION.

The prevention of the pollution of the air by smoke is one of the duties imposed upon Sanitary Authorities, by Sections 91 (sub-sections 7 and 8), 92, and 102, of the Public Health Act, 1875.

The value of pure air is gradually being more and more appreciated, now that the difficulty of obtaining it is daily increasing. The question of “aerial sewage,” as it has been termed, is attracting much attention. The importance of the evil has been recognised by the Physical Deterioration Committee, in Clause 7 of their recommendations. In the coal mining parts of the country, smoke pollution concerns the Rural Districts, as well as the Urban. Smoke prevention is already successfully accomplished in some cases, and there is no sufficient reason why smoke-consuming furnaces and careful stoking should not be required in all.

Sir William Ramsay, F.R.S., in his address in 1896, referred to one point in connection with smoke production, which cannot be known too widely. He said, “Smoke condenses atmospheric vapour, causing fog and rain, *renders our climate colder*, and makes our lives more or less unhappy and uncomfortable. It *shuts out sunlight*, and thus increases the growth, and tends towards the multiplication of bacteria, many of which are of a dangerous character.”

Mechanical science, in its application to the proper combustion of fuel, whether the fuel be coal or the gas obtained from it, is now quite capable of relieving us from this nuisance. Further, *this much-needed relief may be obtained in a manner quite consistent with economy*, so far as steam production is concerned.

At the recent Conference on Smoke Abatement in London, arranged by The Royal Sanitary Institute in conjunction with The Coal Smoke Abatement Society, it was pointed out that—“The immediate consequence of the loss of light entailed by fogs, is a large expenditure on artificial light, estimated, in *The St. James's Gazette* of 14th October, 1903, at not less than £7000 per day. This item, formidable as it is, is trifling



“compared with the expense and loss entailed by the dis-  
“organisation of traffic by fogs, on which, however, it is  
“impossible to place even an approximate value.”

“This economic loss, however, is of secondary importance  
“compared with the loss of life and injury to health which  
“smoky fogs bring in their train.”

“During the record fog which marked the winter of 1879-  
“1880, the deaths showed an excess of several thousands above  
“the normal. Towards the end of January, Asthma alone  
“claimed 43 per cent. of lives beyond its ordinary tribute.  
“The death-rate from Bronchitis was increased by 331 per cent.,  
“and that from Whooping Cough by 231 per cent. During the  
“fortnight ending 2nd January, 1892, including the 100-hour  
“fog of Christmas, 1891, the excess of deaths registered above  
“the normal was given by the late Dr. Vivian Poore as 1,442.”

“To the loss of life which is more or less directly traceable  
“to fogs, must be added the impaired vitality of the millions  
“who come under their influence.”

In the vegetable world, there can be no doubt that smoke  
injures trees and damages crops both directly and through the  
diminution of sunshine induced.

Dr. Rothera (Becston) writes:—“Together with your  
“Surveyor, I have investigated during the year complaints as  
“to four cases of Factory Smoke pollution.”

## FACTORIES, WORKSHOPS AND BAKEHOUSES.

The amount and kind of work that is being done by the  
Health Authorities under the recent Act is shown on the  
following Tables; and also by the extracts from the Annual  
Reports of the Medical Officers of Health.

Dr. Wills (Mansfield) writes:—“The notice of the occu-  
“piers has been drawn to defects of cleanliness, ventilation,  
“drainage, and sanitary accommodations, and the notice of  
“owners to those cases where works of construction have  
“been required.”

“All notices, so far as I am aware, have been complied  
“with without further action. One large workshop was pro-  
“vided with means of escape in case of fire. His Majesty’s  
“Inspector of Factories complained of a trapped grate being  
“placed inside a bakehouse, and an order was made that this  
“should be rectified.”

Dr. Wills (Newark Urban) writes :—" One of the factories "did not appear to be sufficiently provided with means of "escape in case of fire, and improved means of escape were "made for two of the rooms. The matter was referred to His "Majesty's Inspector of Factories, and I was informed that "he was satisfied with what had been done."

"A bakehouse was closed in Balderton Gate, and another "bakehouse in the same locality was renovated and very much "improved."

"One of the principal workshops was very much im- "proved by the provision of better means of ventilation, "which is so very necessary."

"Dr. Harvey Francis (Arnold) writes :—" In one factory "the water-closets were found in an unsatisfactory condition, "and they were at once remedied at my suggestion."

"The workshops generally are in a satisfactory condition ; "a number of instructions have been given from time to time "to limewash more frequently, or to improve the ventilation, "and in nearly every case the defects were remedied within a "short time."

"One case of infectious disease was notified in an out- "worker's premises, and the work was forthwith forbidden."

Dr. Mackenzie (Kirkby-in-Ashfield) writes :—" Infectious "disease, Scarlet Fever, was notified from seven houses used "as domestic workshops. Work was prohibited for a specified "time, and the articles disinfected."

Dr. Houfton (Mansfield Woodhouse) writes :—" There are "only three factories in your district, each of which is well "equipped with fire appliances and ready means of exit."

Dr. Garrett (Worksop) writes :—" In several instances "ventilation was not well maintained, but this was from want "of use of the means provided, and not from want of space."

## OVERCROWDING.

Dr. Harvey Francis (Arnold) writes :—" Two bad cases "came under my observation during the year; in one the "parents and six children occupied one small bedroom, and "in the other a mother and three sons shared a small bedroom "between them, and as two of the sons were young adults, "there was, in this case, a grave moral objection as well. "There was no difficulty, however, in getting this state of "things remedied."

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.
 Year 1905.

URBAN DISTRICTS.	Number of Workshops on the Register. (Including Bakehouses.)	Number of Inspections, including Inspections made by Sanitary Inspectors.				DEFECTS FOUND.								Underground Bakehouses.		Outworkers.		Homework.		
		Factories (including Factory Laundries).	Workshops (including Workshop Laundries).	Workplaces.	Homeworkers' Premises.	Nuisances under the Public Health Acts.				Offences under the Factory and Workshop Act.				Certificates granted.	In use at the end of 1905.	Number of Lists received.	Number of Outworkers.	Notices prohibiting Homework in Unwholesome Premises.	Cases of Infectious Disease notified in Homeworkers' Premises.	Orders prohibiting Homework in Infected Premises.
						Found.	Remedied.	Referred to H.M. Inspector.	Prosecutions.	Found.	Remedied.	Referred to H.M. Inspector.	Prosecutions.							
MANSFIELD .. ..	71	..	71	..	..	19	14	..	..	..	..	..	..	..	1	6	21	..	..	..
NEWARK .. ..	..	2	76	..	75	8	8	..	..	..	..	..	..	..	..	..	..	..	..	..
EAST RETFORD .. ..	102	4	26	..	2	3	3	..	..	..	..	..	..	..	..	10	18	..	..	..
ARNOLD .. ..	77	18	154	..	77	2	2	..	..	9	1	..	..	..	1	2	56	..	1	1
BEESTON .. ..	47	26	35	21	62	18	18	..	..	..	..	..	..	..	..	..	..	..	..	..
CARLTON .. ..	34	4	34	..	82	1	1	..	..	..	..	..	..	..	..	19	60	..	..	..
EASTWOOD .. ..	..	5	15	..	..	6	6	..	..	..	..	..	..	..	..	..	..	..	..	..
HUCKNALL HUTHWAITE ..	..	4	..	..	frequent	..	..	..	..	..	..	..	..	..	..	..	30	..	..	..
HUCKNALL TORKARD ..	86	14	264	16	16	20	20	..	..	42	42	..	..	..	1	40	342	..	16	16
KIRKBY-IN-ASHFIELD ..	6	10	10	14	7	3	3	..	..	7	7	..	..	..	..	2	30	..	7	7
MANSFIELD WOODHOUSE ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
SUTTON-IN-ASHFIELD ..	40	29	68	..	231	18	18	..	..	..	..	..	..	..	..	17	169	..	27	27
WARSOP .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
WEST BRIDGFORD .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
WORKSOP .. ..	43	64	198	25	20	5	5	..	..	..	..	..	..	..	..	6	5	..	..	..





## FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

Year 1905.

[illegible]



Dr. Eaton (Bingham) writes:—"Four houses have been reported to this Council as overcrowded and in an insanitary condition."

### HOUSES UNFIT FOR HABITATION.

Dr. Forbes (Eastwood) writes:—"Two buildings have been condemned as unfit for human habitation."

Dr. Mackenzie (Kirkby-in-Ashfield) writes:—"The exceptions are (1) Portland Row, bedroom accommodation is deficient in these houses, very seriously felt when infectious disease occurs in any of them. When a family have only two small bedrooms, isolation is impossible."

"As an example of what can be done with houses of this class, I should like to point out to you the alterations effected in the tenements known as "Zulu Row," East Kirkby. Originally built like Portland Row, without sculleries and with two small bedrooms, but this year, through the exertions of the Sanitary Inspector and myself, the owner built new sculleries to each house, with an additional bedroom above, also drained, channelled, and blue bricked the yards to their back."

### BUILDING BYE-LAWS IN RURAL DISTRICTS.

There has been so much controversy in the country upon this subject that the following extracts from the Annual Reports may be of interest:—

The Inspector of Nuisances (East Retford Rural) writes:—"No Building Bye-laws are in force in this District, and hence there are no restrictions upon the erection of new houses beyond the provision of a wholesome water supply, and sanitary accommodation, as described above. Notwithstanding this freedom only four new houses have been erected during the year."

Dr. Wray (Basford) writes:—"I may add that the Committee continue to act up to their decision to pass no plan which does not conform to the new Bye-laws, and already the benefit of this action is apparent in the better class of cottage property which is springing up in the District."

“Considerable outcry has recently been made against the stringency of the Model Bye-laws, and their deterring influence on building prospects in Rural Districts, and an attempt has been made at the “Garden City” at Letchworth, to show how they may be modified and cheaper dwellings built. A visit to Letchworth will not convince anyone on the economical side of the question, and the fact that plans for houses, on an average of considerably over 200 per year, have been passed by your Committee since the adoption of your present Bye-laws (in 1896), shows that they are not too stringent, and have no deterring effect— at any rate—in the mining portions of the District.”



Table I. NOTTINGHAMSHIRE. Vital Statistics for the Year 1905.  
BOROUGH AND URBAN DISTRICTS.

BOROUGH AND URBAN DISTRICTS.	Area in Acres Exclusive of area covered by water.	Persons per Acre.	Inhabited Houses at Census, 1901.	Persons per House at Census, 1901.	Population, Census 1901.	Population, Estimated to the middle of 1905.	Births.		Deaths under 1 year of age.		Total Deaths Registered at all Ages.		Net Deaths at all Ages belonging to the Districts.	** Corrected Death Rate.	† Average Death Rate of the ten years 1895-1904.	Death Rate from Tuberculous Diseases, 1905.	Death Rate from principal Zymotic Diseases, 1905.
							Number.	* Rate.	Number.	Rate per 1000 Births Registered.	Number.	* Rate.					
MANSFIELD (Borough) .. ..	7,208	3·6	4,369	4·94	21,445	27,400	826	30·1	137	165	505	18·4	475	17·3	17·5	1·67	2·51
NEWARK (Borough) .. ..	1,899	8·1	3,416	4·3	14,992	15,270	481	31·5	44	91	252	16·5	240	15·7	16·9	2·03	0·72
EAST RETFORD (Borough) .. ..	4,498	2·8	2,707	4·5	12,340	13,066	348	26·6	33	94·8	207	15·8	200	15·3	15·5	1·07	1·07
ARNOLD .. ..	4,612	2·1	1,799	4·8	8,757	10,530	510	29·4	50	161	156	14·8	162	15·3	15·1	1·71	2·95
BEESTON .. ..	1,586	6·7	1,978	4·5	8,960	10,800	286	26·4	30	104	116	10·7	130	12·0	13·1	2·13	1·01
CARLTON .. ..	1,400	9·4	2,159	4·6	10,041	14,078	403	28·6	47	116	156	11·0	165	11·7	12·9	0·99	1·56
EASTWOOD .. ..	940	5·5	948	5·0	4,815	5,200	137	26·3	27	197	80	15·3	80	15·3	15·5	1·34	2·11
HUCKNALL HUTHWAITE	1,199	3·7	789	5·0	4,076	4,514	160	35·5	30	187	69	15·3	73	16·1	18·4	0·22	4·43
HUCKNALL TORKARD ..	3,270	5·0	3,126	4·8	15,250	16,500	506	30·6	66	130	229	13·8	247	14·9	16·6	1·57	3·63
KIRKBY-IN-ASHFIELD ..	5,814	2·3	2,055	5·0	10,318	14,465	495	34·2	63	127	154	10·6	162	11·1	15·5	0·83	2·14
MANSFIELD WOODHOUSE	4,834	1·1	961	5·0	4,877	6,000	285	47·5	38	137	88	14·7	88	14·7	16·9	0·83	2·66
SUTTON-IN-ASHFIELD ..	4,786	3·5	2,993	4·9	14,862	18,027	617	34·2	88	142	228	12·6	242	13·4	17·6	1·49	1·00
WARSOP .. ..	5,728	0·5	429	4·9	2,132	3,564	130	36·4	24	184	53	14·8	53	14·8	16·9	0·84	2·24
WEST BRIDGFORD .. ..	1,123	8·5	1,544	4·5	7,018	9,837	170	17·2	11	65	66	6·7	67	6·8	8·7	0·91	0·51
WORKSOP .. ..	17,930	0·9	3,258	4·9	16,112	17,807	593	33·3	76	128	258	14·5	260	14·6	17·4	1·56	0·89
Totals for Urban Districts	66,827	2·7	32,531	4·7	155,995	187,058	5747	30·7	764	133	2617	13·9	2644	13·6	15·9	1·40	1·83

\* Rates calculated per 1000 of the estimated population.

\*\* The Corrected Death Rate is arrived at by taking the whole of the Deaths registered during the year in the District, adding the Deaths of residents registered beyond the District, and subtracting the Deaths of non-residents registered within the District.

† The Eastwood Rate is calculated for 8 years, and Kirkby-in-Ashfield for 9 years, as previously they were not Urban Districts.



Table II. NOTTINGHAMSHIRE. Vital Statistics for the Year 1905.  
RURAL DISTRICTS.

RURAL DISTRICTS.	Area in Acres, exclusive of area covered by water.	Persons per Acre.	Inhabited Houses at Census 1901.	Persons per House at Census 1901.	Population, Census 1901.	Population estimated to the middle of 1905.	Births.		Deaths under one year of age.		Total Deaths registered at all ages.		Nett Deaths at all ages belonging to the Districts.	Corrected Death Rate.  *   *   *	Average Death Rate of the ten years 1895—1904.	Death Rate from Tuberculous Diseases, 1905.	Death Rate from principal Zymotic Diseases, 1905.
							Number.	Rate.  *	Number.	Rate per 1000 Births registered.	Number.	Rate.  *					
BASFORD .. .. .	61,868	64	8,115	4.7	38,365	40,090	1,173	29.2	139	118	542	13.5	576	14.3	14.6	1.34	1.90
BINGHAM .. .. .	66,574	21	3,250	4.1	13,612	14,132	287	20.3	31	108	288	20.4	229	15.4	15.8	1.20	1.13
BLYTH AND CUCKNEY	28,208	16	1,005	4.5	4,562	4,730	109	23.0	5	45	57	12.0	59	12.4	14.1	1.26	0.00
EAST RETFORD .. ..	92,740	15	3,321	4.6	14,239	14,236	293	20.9	34	114	199	13.9	209	14.6	14.3	0.98	0.70
LEAKE .. .. .	17,073	21	861	4.3	3,709	3,709	83	22.9	8	96	59	15.9	67	18.0	14.1	0.80	2.15
MISTERTON .. .. .	14,268	25	805	4.4	3,618	3,616	110	30.4	13	118	55	15.1	55	15.1	14.0	0.55	2.48
NEWARK .. .. .	36,619	21	1,795	4.3	7,738	7,973	199	24.9	26	130	119	14.9	119	14.9	13.4	0.75	0.62
SKEGBY .. .. .	12,405	47	1,071	5.1	5,478	6,091	176	28.9	28	164	74	12.1	82	13.4	15.4	0.98	1.80
SOUTHWELL .. .. .	117,638	16	4,573	4.1	19,114	19,035	413	21.9	37	88	313	16.4	317	16.6	16.4	1.47	0.68
STAPLEFORD .. .. .	4,860	1.79	1,703	4.6	7,873	9,000	274	30.4	36	131	124	13.7	130	14.4	14.4	2.00	1.44
Notts. Parishes administered by SHARDLOW .. .. .	2,360	17	79	5.2	413	415	6	14.4	0	0	4	9.6	4	9.6	13.0	0.00	0.00
Total for Rural Districts ..	454,613	26	26,583	4.4	118,721	123,027	3,133	25.4	357	114	1,834	14.9	1,847	15.0	14.9	1.25	1.32

\* Rates calculated per 1000 of the Estimated Population.

\*\* The Corrected Death Rate is arrived at by taking the whole of the Deaths registered during the year within the District, adding the Deaths of residents registered beyond the District, and subtracting the Deaths of non-residents registered within the District.





Table III. NOTTINGHAMSHIRE. Cases of Infectious Disease notified during the  
Year 1905. BOROUGH AND URBAN DISTRICTS.

BOROUGH AND URBAN DISTRICTS.	Small Pox.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlet Fever.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Chicken Pox.	TOTAL.	Whether there is any Isolation Hospital for Infectious Diseases?	Cases removed to Isolation Hospital for treatment.	Name of the Medical Officer of Health.	Whether the Annual Report is printed?
MANSFIELD (Borough)	15	23	..	49	63	8	..	..	6	164	Yes	71	Charles Wills, M.R.C.S.	Yes
NEWARK (Borough)	..	10	..	8	32	2	..	2	..	54	Yes	10	Charles Wills, M.R.C.S.	Yes
EAST RETFORD (Borough)	..	12	2	13	122	4	..	2	..	155	Yes	70	A. E. Manners-Smith, M.R.C.S.	Yes
ARNOLD	..	1	..	3	7	5	..	..	..	16	Yes for Small-pox	0	Harvey Francis, M.D.	Yes
BEESTON	..	81	..	10	22	1	..	..	..	114	Yes for Small-pox	0	Frank Rothera, M.D.	Yes
CARLTON	..	43	1	33	25	5	3	2	..	112	Yes for Small-pox	0	J. T. Knight, M.R.C.S.	Yes
EASTWOOD	..	2	..	2	11	4	..	..	..	19	No	0	D. M. Forbes, F.R.C.S.	Yes
HUCKNALL HUTHWAITE	..	2	2	2	24	4	..	..	..	34	Yes	0	Robert Irvine, L.R.C.P.	Yes
HUCKNALL TORKARD	62	55	2	21	57	17	..	2	50	266	Yes for Small-pox	63*	H. T. Jones, M.R.C.S.	Yes
KIRKBY-IN- ASHFIELD	..	8	..	20	92	39	..	2	..	161	Yes	0	John Mackenzie, L.R.C.P.	Yes
MANSFIELD WOODHOUSE	1	13	..	9	93	10	..	2	..	128	No †	5	Ernest H. Houfton, M.D.	Yes
SUTTON-IN- ASHFIELD	..	2	..	6	299	7	..	..	..	314	Yes for Small-pox	0	R. Nesbitt, L.R.C.S.I.	Yes
WARSOP	..	4	..	8	20	..	..	..	..	32	No	0	Joseph Ingram, L.R.C.P. and S.	Yes
WEST BRIDGFORD	..	39	..	..	23	9	..	..	..	71	No	0	Walter Hunter, M.D.	Yes
WORKSOP	13	5	..	12	43	4	..	1	14	92	Yes	54	T. C. Garrett, M.B.	Yes
TOTAL .. ..	91	300	7	196	933	119	3	13	70	1732		273		

† There is an arrangement with the Mansfield Corporation to admit cases of Small Pox and Scarlet Fever into their Isolation Hospitals.

\* Three cases of Enteric Fever removed to General Hospital, Nottingham.



Table IV. NOTTINGHAMSHIRE. Cases of Infectious Disease notified during the Year 1905.  
RURAL DISTRICTS.

RURAL DISTRICTS.	Small Pox.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlet Fever.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Chicken Pox.	TOTAL.	Whether there is any Isolation Hospital for Infectious Diseases?	Cases removed to Isolation Hospital for treatment.	Name of the Medical Officer of Health.	Whether the Annual Report is printed?
BASFORD	1	65	..	45	226	44	..	2	..	383	Yes	93	G. B. Wray, M.R.C.S., D.P.H.	Yes
BINGHAM	..	11	..	2	31	4	..	..	..	48	No	0	J. W. Eaton, M.R.C.S.	No
BLYTH AND CUCKNEY	..	..	..	5	14	1	..	..	..	20	Yes	10	Charles Wills, M.R.C.S.	Yes
EAST RETFORD	..	3	..	6	41	1	..	..	..	51	No	0	Hanway R. Beale, M.D.	Yes
LEAKE	..	10	..	..	2	14	..	2	..	28	No	0	Thos. Coreoran, L.R.C.S.I.	Type-written
MISTERTON	..	2	..	3	..	8	..	..	..	13	Yes for Small-pox	0	J. Potterton Ferguson, L.R.C.P.	No
NEWARK	..	1	..	8	18	1	1	1	..	30	No	0	Frank Broadbent, M.R.C.S.	Yes
SKEGBY	..	10	..	3	138	3	..	2	..	156	No	0	J. O. Littlewood, M.R.C.S., D.P.H.	Yes
SOUTHWELL	..	16	..	6	89	2	..	..	..	113	Yes	4	Charles Wills, M.R.C.S.	Yes
STAPLEFORD	..	16	1	10	66	5	..	..	..	98	Yes for Small-pox	0	E. Kingsbury, M.D.	Yes
NOTTS. PARISHES administered by SHARDLOW	..	..	..	..	1	..	..	..	..	1	No	..	J. A. Hogg, M.R.C.S.	Yes
TOTALS .. .. .	1	134	1	88	626	83	1	7	..	941		107		





Table V. NOTTINGHAMSHIRE. Vital Statistics for the Year 1905.  
WHOLE ADMINISTRATIVE COUNTY.

	Area in Acres.	Persons per Acre.	Inhabited Houses at Census, 1901.	Persons per House at Census, 1901.	Population, 1901.	Population Estimated to the middle of 1905.	Births.		Deaths under 1 year.		Total Deaths registered at all Ages.		Corrected Death Rate.	Average Death Rate for the ten years 1895-1904.	Death Rate from Tuberculous Diseases, 1905.	Death Rate from Epidemic Diseases, 1905.
							Number.	Rate.	Number.	Rate per 1,000 Births.	Number.	Rate.				
URBAN DISTRICTS	66,827	2.7	32,531	4.7	155,995	187,058	5,747	30.7	764	133	2,617	13.9	13.6	15.9	1.40	1.83
RURAL DISTRICTS	454,613	.26	26,583	4.4	118,721	123,027	3,133	25.4	357	114	1,834	14.9	15.0	14.9	1.25	1.32
WHOLE ADMINISTRATIVE COUNTY.	521,440	.58	59,114	4.6	274,716	310,085	8,880	28.6	1,121	126	4,451	14.3	14.1	15.5	1.35	1.63

\* Rate calculated per 1,000 of the estimated Population.



Table VI. Causes of Death during the Year 1905. URBAN DISTRICTS.

DISTRICTS.	Small Pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Croup.	Fever (Typhus, Enteric, and Continued).	Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	Old Age.	Convulsions.	Apoplexy.	All other Causes.	All Causes.
MANSFIELD .. ..	27	1	29	1	..	2	2	9	4	2	3	1	33	13	19	28	43	1	2	6	2	16	1	33	14	1	24	..	..	158	475	
NEWARK .. ..	6	1	..	1	..	..	1	2	4	..	..	..	19	12	10	31	26	..	3	4	1	7	..	23	4	..	20	..	..	65	240	
EAST RETFORD .. ..	3	..	2	2	..	2	1	5	7	..	..	2	9	5	11	22	15	..	2	2	1	6	1	27	3	..	..	..	..	72	200	
ARNOLD .. ..	18	1	..	1	..	2	..	9	3	..	..	..	13	5	8	20	15	..	3	1	..	8	1	11	3	2	..	..	..	38	162	
BEESTON .. ..	..	..	..	9	..	..	..	2	..	..	..	..	15	8	5	16	10	1	2	2	2	8	1	9	4	2	10	2	8	14	130	
CARLTON .. ..	12	2	3	2	2	1	1	2	..	..	1	..	10	4	9	10	12	..	..	..	..	4	1	27	6	..	16	..	..	40	165	
EASTWOOD .. ..	3	..	3	1	1	1	1	3	6	..	1	8	3	4	4	9	7	..	3	..	..	3	1	7	..	..	1	..	..	10	80	
HUCKNALL HUTH-WAITE .. ..	6	1	5	..	..	3	..	5	2	..	..	..	..	1	3	6	5	..	..	..	..	9	1	5	1	2	..	1	..	17	73	
HUCKNALL TOR-KARD .. ..	3	31	4	3	3	2	3	..	13	5	1	1	..	18	8	5	12	20	..	1	5	1	10	2	21	5	2	..	..	2	66	247
KIRKBY-IN-ASHFIELD .. ..	16	..	7	..	..	..	3	8	7	..	..	..	8	4	6	7	24	1	..	2	1	2	1	8	6	1	..	..	..	50	162	
MANSFIELD WOODHOUSE .. ..	..	..	3	5	1	..	..	1	7	..	..	..	2	3	3	4	7	..	4	..	..	3	1	5	2	..	..	..	..	37	88	
SUTTON-IN-ASHFIELD .. ..	8	5	4	..	..	..	1	1	13	..	1	..	19	8	8	43	9	..	2	3	1	9	2	9	3	3	..	..	..	90	242	
WARSOP .. ..	..	..	1	6	..	..	..	1	4	..	1	1	..	3	1	3	7	..	..	..	1	4	..	2	2	..	..	..	..	16	53	
WEST BRIDGFORD .. ..	3	..	..	..	..	2	..	..	3	..	..	..	4	5	4	4	2	..	..	1	..	4	1	8	1	..	..	..	..	25	67	
WORKSOP .. ..	..	..	..	..	1	..	1	3	14	6	..	3	2	21	7	15	27	27	..	2	4	..	17	2	25	7	1	5	..	..	70	260
TOTAL .. ..	3	133	19	67	22	5	17	14	81	64	3	11	14	174	90	111	242	229	3	24	30	10	110	16	220	61	14	76	3	10	768	2644





Table VII. Causes of Death during the Year 1905. RURAL DISTRICTS.

DISTRICTS.	Small Pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Croup.	Fever (Typhus, Enteric, and Continued).	Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism, Cirrhosis of Liver.	Veneral Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	Old Age.	Convulsions.	Apoplexy.	All other Causes.	All Causes.
BASFORD .. ..	..	26	7	6	15	2	8	9	16	6	..	1	..	34	21	25	52	40	..	9	6	..	26	4	63	25	1	..	..	..	174	576
BINGHAM .. ..	..	5	..	..	6	..	1	12	4	2	..	..	..	13	4	12	14	11	3	..	5	..	2	3	33	3	1	..	..	..	95	229
BLYTH AND CUCKNEY ..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	2	4	8	3	..	..	2	..	1	..	7	1	..	7	..	1	19	59
EAST RETFORD .. ..	..	3	..	2	1	..	1	2	3	..	..	1	2	13	1	17	25	5	..	5	4	..	7	2	29	3	3	..	..	16	64	209
LEAKE .. ..	..	2	..	1	3	..	1	..	1	..	..	..	..	4	1	7	3	3	..	..	1	..	1	..	13	4	1	..	..	..	21	67
MISTERTON .. ..	..	..	..	3	..	..	3	1	3	..	..	1	..	1	1	1	7	..	..	..	..	..	..	..	3	2	..	..	..	..	29	55
NEWARK .. ..	..	..	1	3	..	..	1	..	..	1	1	1	1	4	2	5	12	14	..	..	..	1	7	..	9	5	2	..	..	..	49	119
SKEGBY .. ..	..	1	3	3	2	..	..	..	2	..	..	3	..	4	2	6	5	12	..	1	1	..	6	1	4	2	..	5	3	..	16	82
SOUTHWELL .. ..	..	..	3	1	3	..	3	7	3	2	2	..	..	20	8	23	20	17	..	1	6	..	8	..	33	4	2	48	..	10	93	317
STAPLEFORD .. ..	..	7	..	..	2	2	1	2	3	4	..	1	..	10	8	2	7	8	..	1	3	..	7	2	12	4	1	..	5	6	32	130
Notts. Parishes administered by SHARDLOW ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	1	4
TOTAL .. ..	..	44	14	19	32	4	19	33	35	15	3	8	3	107	50	102	153	113	3	17	28	1	65	12	206	55	12	60	8	33	593	1847



Table VIII. NOTTINGHAMSHIRE. Causes of, and Ages at, Death during the Year 1905. URBAN DISTRICTS.

CAUSES OF DEATH.	DEATHS IN URBAN DISTRICTS AT SUBJOINED AGES.						
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards
Small-pox .. .. .	3	..	1	1	..	..	1
Measles .. .. .	133	38	90	5	..	..	..
Scarlet Fever .. .. .	19	1	10	6	2	..	..
Whooping-cough .. .. .	67	29	36	1	1	..	..
Diphtheria and Membranous Croup .. .. .	22	..	11	11	..	..	..
Croup .. .. .	5	1	4	..	..	..	..
Enteric Fever .. .. .	17	..	2	2	5	8	..
Epidemic Influenza .. .. .	14	1	..	..	..	7	6
Diarrhœa .. .. .	81	63	13	..	..	1	4
Enteritis .. .. .	64	35	13	2	2	8	4
Puerperal Fever .. .. .	3	..	..	..	..	3	..
Erysipelas .. .. .	11	2	1	2	..	4	2
Other septic diseases .. .. .	14	3	1	1	1	3	5
Phthisis .. .. .	174	2	9	10	37	107	9
Other tuberculous diseases	90	23	31	17	7	12	..
Cancer, malignant disease	111	..	1	..	..	70	40
Bronchitis .. .. .	242	76	32	4	2	33	95
Pneumonia .. .. .	229	65	74	9	7	52	22
Pleurisy .. .. .	3	..	..	1	..	1	1
Other diseases of respiratory organs .. .. .	24	2	5	1	..	11	5
Alcoholism ) Cirrhosis of Liver }	30	..	..	..	..	24	6
Venereal diseases .. .. .	10	8	..	..	..	2	..
Premature birth .. .. .	110	110	..	..	..	..	..
Diseases and accidents of Parturition .. .. .	16	1	..	..	4	11	..
Heart diseases .. .. .	220	6	5	9	7	105	88
Accidents .. .. .	61	7	12	4	11	19	8
Suicides .. .. .	14	..	..	..	3	7	4
Old Age .. .. .	76	..	..	..	..	..	76
Convulsions .. .. .	3	3	..	..	..	..	..
Apoplexy .. .. .	10	..	..	..	..	2	8
All other causes .. .. .	768	289	55	23	13	177	211
All causes .. .. .	2644	765	406	109	102	667	595





Table IX. NOTTINGHAMSHIRE. Causes of and Ages at Death during the Year 1905. RURAL DISTRICTS and WHOLE COUNTY.

CAUSES OF DEATH.	DEATHS IN RURAL DISTRICTS AT SUBJOINED AGES.							DEATHS IN WHOLE ADMINISTRATIVE COUNTY AT ALL AGES.
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards	
Small Pox .. .. .	..	..	..	..	..	..	..	3
Measles .. .. .	44	7	33	4	..	..	..	177
Scarlet Fever .. .	14	2	6	3	3	..	..	33
Whooping-cough .. .	19	10	9	..	..	..	..	86
Diphtheria and Membranous Croup .. .. .	32	..	9	21	2	..	..	54
Croup .. .. .	4	..	3	1	..	..	..	9
Enteric Fever .. ..	19	1	..	2	10	6	..	36
Epidemic influenza ..	33	2	..	..	3	9	19	47
Diarrhœa .. .. .	35	21	6	..	..	2	6	116
Enteritis .. .. .	15	9	2	1	1	1	1	79
Puerperal fever .. ..	3	..	..	..	..	3	..	6
Erysipelas .. .. .	8	3	..	..	..	2	3	19
Other septic diseases ..	3	..	..	..	..	3	..	17
Phthisis .. .. .	107	2	1	3	33	67	1	281
Other tuberculous diseases ..	50	18	15	9	2	5	1	140
Cancer, malignant disease	102	..	..	..	..	49	53	213
Bronchitis .. .. .	153	37	14	1	..	15	86	395
Pneumonia .. .. .	113	25	26	3	4	28	27	342
Pleurisy .. .. .	3	..	..	..	..	1	2	6
Other diseases of respiratory organs .. .. .	17	4	4	1	..	3	5	41
Alcoholism ) Cirrhosis of Liver }	28	..	..	..	1	16	11	58
Venereal diseases .. ..	1	..	1	..	..	..	..	11
Premature birth .. ..	65	65	..	..	..	..	..	175
Diseases and accidents of parturition .. ..	12	1	..	..	2	9	..	28
Heart diseases .. ..	206	..	..	7	8	73	118	426
Accidents .. .. .	55	1	3	5	8	33	5	116
Suicides .. .. .	12	..	..	..	1	10	1	26
Old Age .. .. .	60	..	..	..	..	..	60	136
Convulsions .. .. .	8	7	1	..	..	..	..	11
Apoplexy .. .. .	33	..	..	1	..	6	26	43
All other causes .. ..	593	142	19	16	7	140	269	1361
All causes .. .. .	1817	357	152	78	85	481	694	4491



Table X. NOTTINGHAMSHIRE. URBAN DISTRICTS.

Infantile Mortality during the Year 1905. Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.				Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11 12 Months	Total Deaths under 1 Year.
Common Infectious Diseases	Small-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles .. ..	..	..	1	1	2	..	1	1	..	2	2	1	3	6	8	10	36	1	1
	Scarlet Fever .. ..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Diphtheria: Croup ..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Whooping Cough ..	..	..	..	3	3	5	1	2	3	3	3	2	2	2	2	1	29	1	29
Diarrhœal Diseases.	Diarrhœa, all forms ..	..	1	2	3	6	4	6	7	8	8	7	6	4	4	2	1	63	1	63
	Enteritis ( <i>not Tuberculous</i> )	..	2	1	2	5	1	3	4	2	3	1	2	..	..	2	4	27	1	27
	Gastritis, Gastro-intestinal Catarrh	..	..	1	1	2	3	3	3	3	1	2	1	..	1	..	..	19	1	19
Wasting Diseases.	Premature Birth .. ..	80	11	9	5	105	6	2	1	..	..	..	..	..	..	..	..	114	1	114
	Congenital Defects ..	8	3	3	2	16	1	1	..	..	..	..	..	1	..	..	..	19	1	19
	Injury at Birth .. ..	5	1	..	..	6	..	..	..	..	..	..	..	..	..	..	..	6	1	6
	Want of Breast-milk ..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	1
	Atrophy, Debility, Marasmus	20	2	12	9	43	26	20	8	6	11	8	3	1	1	3	1	131	1	131
Tuberculous Diseases.	Tuberculous Meningitis ..	..	..	..	..	..	..	..	..	2	1	1	1	..	..	2	2	9	1	9
	Tuberculous Peritonitis: Tabes Mesenterica	..	..	..	..	..	..	1	1	1	..	3	2	1	..	1	..	10	1	10
	Other Tuberculous Diseases	..	..	..	..	..	..	1	1	..	2	3	1	..	1	1	..	10	1	10
	Erysipelas .. ..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	2	1	2
	Syphilis .. ..	1	..	..	..	1	2	1	1	..	1	..	..	1	1	..	..	8	1	8
	Rickets .. ..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	..	3	1	3
	Meningitis ( <i>not Tuberculous</i> )	..	1	..	..	1	..	..	..	1	1	1	4	..	1	..	9	1	9	9
	Convulsions .. ..	11	1	2	4	18	15	5	4	7	4	2	3	2	2	2	5	69	1	69
	Bronchitis .. ..	1	2	3	1	7	7	6	8	8	5	7	2	8	7	8	3	76	1	76
	Laryngitis .. ..	..	1	..	..	1	..	..	1	..	..	..	..	1	1	1	..	5	1	5
	Pneumonia .. ..	..	1	..	..	1	5	4	3	2	5	13	7	7	3	4	11	65	1	65
	Suffocation, overlaying	1	..	..	..	1	1	1	1	..	1	..	..	..	..	..	..	5	1	5
	Other Causes .. ..	11	2	2	5	20	4	6	3	3	2	2	5	1	1	..	..	47	1	47
All Causes .. ..				139	28	37	36	240	83	62	49	45	51	55	39	36	30	37	38	765





Table XI. NOTTINGHAMSHIRE. RURAL DISTRICTS.

Infantile Mortality during the Year 1905. Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.			Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under 1 Year.
Common Infectious Diseases	Small-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles .. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	4	2	7
	Scarlet Fever .. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	2
	Diphtheria: Croup .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Whooping Cough .. ..	..	..	..	..	..	..	2	1	1	1	..	1	1	..	1	2	..	10
Diarrhoeal Diseases.	Diarrhoea, all forms .. ..	..	..	..	..	..	..	2	1	2	3	1	6	3	3	..	..	..	21
	Enteritis ( <i>not Tuberculous</i> ) .. ..	..	1	..	..	1	1	1	..	2	..	..	1	..	1	..	1	1	8
	Gastritis, Gastro- intestinal Catarrh .. ..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	3
Wasting Diseases.	Premature Birth .. ..	47	2	8	4	61	2	2	1	..	..	..	..	2	..	..	..	..	68
	Congenital Defects .. ..	3	..	1	..	4	1	2	1	..	1	..	..	..	..	..	..	..	9
	Injury at Birth .. ..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
	Want of Breast-milk .. ..	..	..	2	..	2	..	..	..	..	..	..	1	..	..	..	..	..	3
	Atrophy, Debility, Marasmus .. ..	13	6	5	2	26	10	5	2	3	3	2	1	1	..	..	..	..	53
Tuberculous Diseases.	Tuberculous Meningitis .. ..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	1	..	4
	Tuberculous Peritonitis: Tabes Mesenterica .. ..	..	1	..	..	1	1	..	1	..	..	..	..	..	1	..	..	2	6
	Other Tuberculous Diseases .. ..	..	..	..	..	..	3	..	..	1	..	..	2	..	2	..	1	1	10
	Erysipelas .. ..	..	..	1	..	1	..	2	..	..	..	..	..	..	..	1	..	..	4
	Syphilis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Rickets .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Meningitis ( <i>not Tuberculous</i> ) .. ..	..	..	..	..	..	1	..	..	..	..	3	..	..	..	..	2	1	7
	Convulsions .. ..	..	2	4	3	9	5	10	1	2	..	3	2	2	..	..	1	35	35
	Bronchitis .. ..	..	..	2	1	3	9	5	2	4	2	2	2	2	3	3	1	3	39
	Laryngitis .. ..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	3
	Pneumonia .. ..	..	..	..	1	1	2	1	1	2	2	2	3	1	4	..	2	5	24
	Suffocation, overlaying .. ..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
	Other Causes .. ..	7	4	2	3	16	3	5	2	..	2	2	2	3	..	2	1	3	39
All Causes .. ..			71	16	26	14	127	42	34	16	17	16	25	18	19	7	16	20	357



TABLE XII.

## NOTTINGHAMSHIRE.

## Abstract of Vital Statistics.

Year.	Estimated Population at the middle of the year.	Persons per Acre.	Inhabited Houses at Census 1901.	Persons per House at Census 1901.	Registered Births.	Births per 1000 of the Population.	Deaths under 1 year per 1000 Births.	Registered Deaths.	Deaths per 1000 of the Population.	Deaths from the Principal Epidemic Diseases per 1000 of the Population.
1881	205,328	·39	44,014	4·6	..	..	..	..	..	..
1891	232,776	·44	49,186	4·7	8202	35·2	138	4135	17·7	..
1892	236,770	·46	..	..	8007	33·9	147	4051	16·7	..
1893	240,026	·46	..	..	7949	33·1	..	4087	17·0	..
1894	243,965	·47	..	..	7747	31·7	130	3585	14·7	..
1895	248,060	·48	..	..	8066	32·5	154	4128	16·6	..
1896	252,282	·49	..	..	8154	32·3	138	3987	15·8	..
1897	256,667	·5	..	..	8186	31·8	152	4115	16·0	1·7
1898	261,224	·505	..	..	8117	31·0	151	4187	16·0	1·74
1899	265,952	·51	..	..	8266	31·0	161	4375	16·4	2·01
1900	270,862	·52	..	..	8292	30·6	160	4617	17·0	1·75
1901	275,971	·53	59,114	4·6	8636	31·3	145	4139	15·0	1·79
1902	285,673	·54	..	..	8920	31·2	138	4116	14·4	1·29
1903	294,566	·56	..	..	9072	30·7	134	4146	14·0	1·38
1904	303,283	·58	..	..	9379	30·9	139	4375	14·4	1·70
1905	310,085	·59	..	..	8880	28·6	126	4451	14·3	1·63
For comparison—										
1905	England and Wales	..	..	..	..	27·2	128	..	15·2	1·52
	76 Great Towns	..	..	..	..	28·2	140	..	15·7	1·88
	141 Smaller Towns	..	..	..	..	26·9	132	..	14·4	1·50
	England and Wales less the 217 Towns	..	..	..	..	26·3	113	..	14·9	1·09

The Population for the years 1892—1901 inclusive, has been corrected according to the information derived from the censuses for 1891 and 1901. The Population for the years 1902—1905 is the total of the Populations of the 26 Districts as estimated by the Medical Officers of Health for each District.

The Statistics for England and Wales are those published in the Quarterly Return of the Registrar-General for January, 1906. They are subject to revision when the causes of death and other details shall have been finally classified for publication in the Registrar-General's 68th Annual Report. The alterations, however, are usually inappreciable.





Table XIII. NOTTINGHAMSHIRE. RAINFALL.

DISTRICT.	Total depth in inches, 1905.	No. of Rainy days, 1905.	Total depth in inches, 1904.	No. of Rainy days, 1904.	Total depth in inches, 1903.	No. of Rainy days, 1903.	Total depth in inches, 1902.	No. of Rainy days, 1902.	Gauge above ground.	Above Sea level.	STATION AND OBSERVER.
EAST RETFORD.. (Urban)	17·35	158	19·86	166	29·51	187	19·69	169	..	..	W. EYRE, Esq., Grammar School, Retford.
BEESTON .. ..	20·44	184	21·65	174	35·00	203	21·84	190	9 inches	206 ft.	G. FELLOWS, Esq., Bceston Fields, Nottingham.
EASTWOOD .. ..	21·72	162	21·19	157	34·40	186	24·84	178	1 ft.	245 ft.	JNO. W. FRYER, Esq., Eastwood, Nottingham.
BASFORD .. ..	20·57	161	20·57	141	34·32	173	23·43	175	1 ft.	475 ft.	Mr. G. I. FLETCHER, Selston Waterworks, near Annesley, Nottingham.
BASFORD .. ..	19·33	167	19·40	162	31·64	197	23·09	189	1 ft.	396 ft.	T. L. K. EDGE, Esq., Strelley, Nottingham.
BASFORD .. ..	18·378	118	19·439	155	28·57	180	19·68	161	1 ft.	65·8 ft.	Mr. A. A. AVIS, Corporation Farm, Stoke Bardolph, Nottingham.
BASFORD .. ..	19·510	168	21·11	174	..	..	..	..	9 inches	64 ft.	F. W. DAVIES, Esq., Burton Joyce Waterworks, Nottingham.
BLYTH & CUCKNEY ..	16·91	152	19·81	165	27·95	190	22·10	170	..	56 ft.	H. MELLISH, Esq , Hodsock Priory, Worksop.
NEWARK .. .. (Rural)	17·51	129	17·21	119	27·48	152	17·36	141	1 ft. 4 in.	52 ft.	Rev. E. C. SHAWFIELD, South Scarle, Newark.

